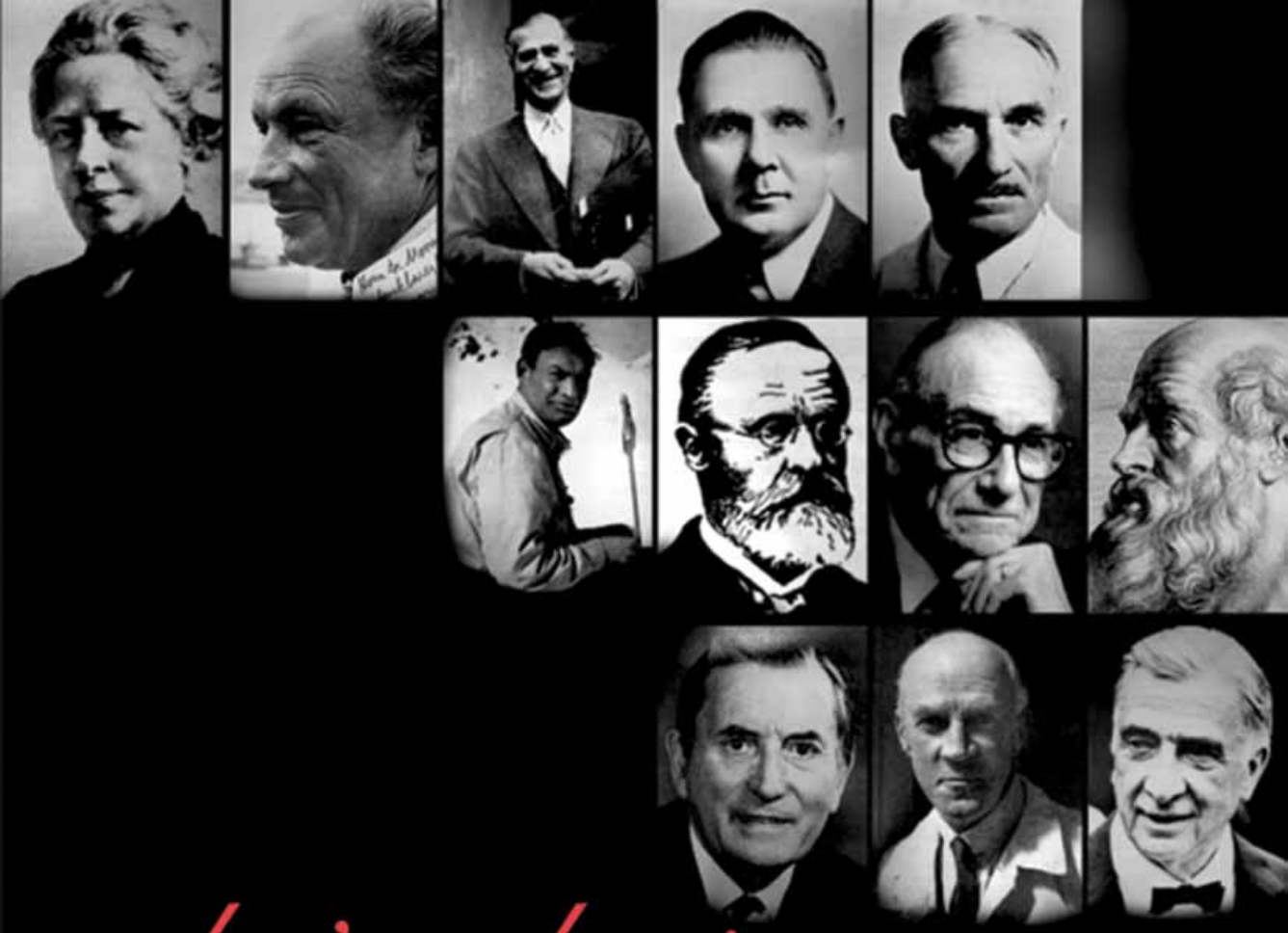

who's who in ORTHOPEDICS

SEYED BEHROOZ MOSTOFI
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Seyed Behrooz Mostofi

Who's Who in Orthopedics

Foreword by Professor Charles A. Rockwood, Jr.

With 267 illustrations

Springer

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This book
is dedicated to
my father, Dr. Seyed Reza Mostofi,
a gifted surgeon of exceptional merit, exemplary integrity and vision, and to
my mother, Mrs. Fakhri Mostofi,
whose amazing grace, enduring support and motivation are a great blessing.

◆

FOREWORD

It is indeed a pleasure to prepare the foreword for this text, mainly because I am now a senior orthopedist who has known so many of the great orthopedists who are described in such great detail in this book. Some of the named physicians have been my very close personal friends, many have been my teachers, professors and colleagues. Indeed, these physicians through their contributions have made the field of orthopedic surgery what it is today worldwide.

This is a wonderful source of information on the interesting lives and contributions of the individual surgeons. In addition, it can be read from front to back as a history of orthopedics. We are all indebted to S.B. Mostofi for this fascinating book. It is truly a text for everyone who has an interest in orthopedics, and surely should be read by orthopedic trainees, faculty members, and practicing orthopedists. I suggest it be placed in every library in medical institutions and hospitals.

Charles A. Rockwood, Jr., MD
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PREFACE

My obsession with history goes back a long way. Some years ago I began to focus my curiosity on individuals whose names are attached to orthopedics. It led to a long endeavor, which gave me enormous satisfaction and enjoyment.

Who's Who in Orthopedics gives an accurate account of people who were pioneers in the orthopedic world. Despite the search capabilities provided by technology today, turning the pages of old journals in specialized libraries remained an invaluable resource. The selection has been collected mainly from the British and American volumes of the *Journal of Bone and Joint Surgery* and *Clinical Orthopedics and Related Research*. The biographies have all been written by people who knew their subject well, so were able to write from personal knowledge. This is reflected in the text by their use of the personal pronoun. Most of the articles have been shortened with the intention of keeping the theme unchanged.

To keep the book readable and reasonable in size, I sadly had to cut down the number of entries. I have made my best attempt to cover the majority of pioneers in orthopedics. However, in any work of this nature, there are sins of omission. If you would like to suggest a personality for the next edition, please do so. It would be greatly appreciated and credit will be given if your suggestion is selected for publication.

The book gained from careful editorial by the contributors, to whom I am most grateful, but if there are any errors they are my responsibility and correction will gladly be made.

Seyed Behrooz Mostofi
London
May, 2004

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I am extremely indebted to my teachers, whose wisdom was an inspiration.

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Robert ADAMS

1791–1875

Robert Adams was a member of the great school of surgeon pathologists, which flourished in Dublin in the nineteenth century and included Abraham Colles and Robert William Smith. Although he was a distinguished surgeon, Adams is remembered for his description of medical diseases; that is the Stokes–Adams syndrome, bradycardia and transient vertigo as a sign of fatty or fibrous myocarditis, and rheumatoid arthritis, which he defined as a specific disease separate from gout.

Adams was born and educated in Dublin. He began his medical training as an apprentice to William Hartigan and George Stewart, who were leading Dublin surgeons. After receiving a medical degree from the University of Dublin in 1832, Adams joined the staff of the important hospitals in Dublin where he became well known as a practitioner and teacher. He had a role in the formation of two proprietary medical schools in Dublin. He served as president of the Royal College of Surgeons in Ireland and the Dublin Pathological Society. At the age of 70 he became Regius Professor of Surgery in Dublin and surgeon to Queen Victoria.

In 1857, Adams published his most important contribution "A Treatise on Rheumatic Gout, or Chronic Rheumatic Arthritis of All of the Joints." This was accompanied by a separate collection of illustrations of the pathologic anatomy of the disease. These publications established rheumatoid arthritis as a disease entity separate from gout. With unlimited cadavers available, and no limits on the extent of their dissections, these surgeon pathologists produced some of the most interesting illustrations of gross pathology ever published.

Alfred Washington ADSON

1887–1951

Alfred Washington Adson was born of Norwegian immigrant parents in a small town in Iowa. After graduating from the local high school, he attended the University of Nebraska before obtaining his degree of Doctor of Medicine from the University of Pennsylvania in 1914. He was a resident at the Mayo Clinic and joined the staff of the clinic in 1918. Initially appointed as a general surgeon, he developed the specialty of neurosurgery and was head of the Section of Neurosurgery of the Mayo Clinic from 1921 to 1946, when he retired.[1] Adson made many contributions to the development of neurosurgery and was considered to be one of the leaders in the field, especially in the area of surgery of the sympathetic nervous system.[2] Although cervical ribs and symptoms associated with their presence had been noted previously, Adson was the first to approach the area from the front and to emphasize the contribution of the scalenus anticus tendon to the syndrome. In an article,[3] "Cervical Rib," published in 1927, he describes the obliteration of the radial pulse on deep inspiration when the patient's head is turned fully to the

affected side when the syndrome is present (Adson's sign). Twenty years later he published another paper on the subject, with a summary of his extensive experience.[4] There is no doubt that this neurosurgical pioneer from the Midwest contributed immensely to the education of physicians of all kinds concerning the diagnosis and treatment of what is now called thoracic outlet syndrome.

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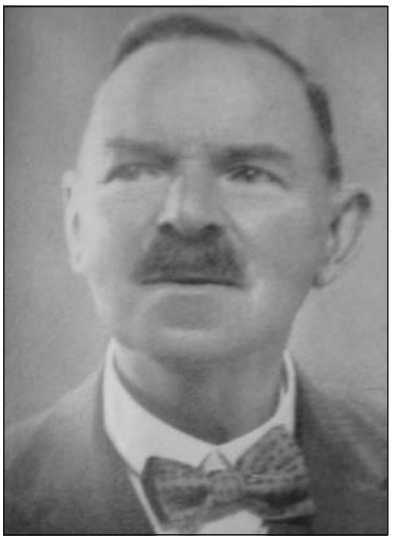


David McCrae AITKEN

1876–1954

McCrae Aitken was born in Singapore in 1876, the son of the Reverend William Aitken, and was educated at George Watson's College and Edinburgh University, where he graduated in arts and in 1901 in medicine; he proceeded to the Fellowship of the Royal College of Surgeons of Edinburgh in 1904 and of England four years later. After holding house appointments in Edinburgh, he came south, but to a strangely different clinical climate, to which he did not easily adapt himself. Of this experience he wrote:

> In 1902 I came to Liverpool and became house surgeon to Robert Jones. On the first out patient day there appeared a boy with a dreadfully swollen knee with numerous sinuses, and through my mind ran the thought: "Excision next week and probably amputation within the next three years." The boy, however, was merely fixed up in a Thomas's knee splint, in which he was allowed to walk, and sent home with instructions to report the following week. In a few months the outward appearance of that joint became normal, and a small range of painless movement returned.

At the Royal Southern Hospital he observed procedures in the treatment of fractures, joint disease and deformity that were certainly new and exciting, however unorthodox. But their very success convinced him of their soundness, indeed compelling him to become a most ardent advocate of the principles of Hugh Owen Thomas. When he left Liverpool, to pursue a higher qualification in Edinburgh and London, it caused him no little dismay to find that the calliper had no place in teaching hospitals in the treatment of a fracture or joint disease, although 30 years had passed since the splint and its uses were described by Owen Thomas in his first published monograph.

During his earlier years in London, Aitken held a house appointment at the Bolingbroke Hospital and eventually became Resident Medical Superintendent. His main interest, however, was in orthopedic surgery, to which he entirely committed himself on election as assistant surgeon to St. Vincent's Surgical Home for Cripples (afterwards St. Vincent's Orthopedic Hospital). This appointment brought him again in intimate contact with Robert Jones, who enjoyed a consulting practice in London as well as in Liverpool, and to whom he became private assistant. On the outbreak of the First World War, Sir Robert stepped into the leadership in organizing a nationwide provision for the reception and treatment of limb casualties by the establishment of military orthopedic hospitals; and he had with him no lieutenant better equipped than McCrae Aitken, who had very considerable experience of surgery and was thoroughly familiar with the use of the calliper and other Liverpool appliances in traumatic surgery. Aitken took an active part in

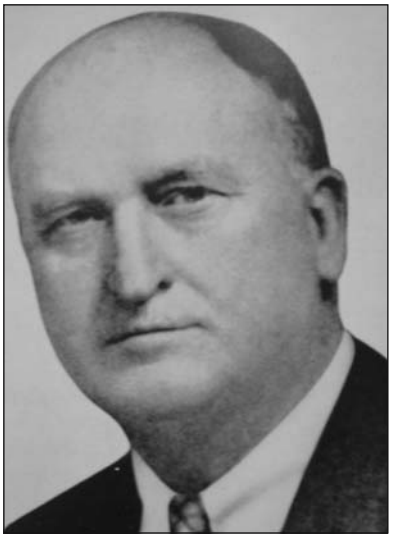
the operative treatment of military casualties at Shepherd's Bush, but he soon became preoccupied with the teaching and training of young surgeons drawn from the United States and the Commonwealth; and he often deputized for his chief at hospital inspections in different parts of the country. In 1916 he gave a lecture–demonstration before the Medical Society of London on "Orthopedic Methods in Military Surgery" in which he stressed the importance of conservative surgery and the value of rest as practiced by Hugh Owen Thomas, to whose principles he adhered without deviation.

After the war he continued at St. Vincent's, but he was also appointed visiting surgeon to the Shropshire Orthopedic Hospital, Oswestry (now the Robert Jones and Agnes Hunt Orthopedic Hospital), where he eventually succeeded Sir Robert as surgical director. During these post-war years he was very active in various scientific societies. He was well known for his patient study of scoliosis, extending over many years—a difficult field, often yielding little harvest in spite of laborious cultivation. But Aitken was recognized by his colleagues as the best informed upon this disability among them and one who succeeded in obtaining such correction that was often denied to others. In his sustained interest and study of spinal curvature he was the counterpart in the UK of R.W. Lovett of Boston. And as a contributor to the Robert Jones Birthday Volume of 1928 he wrote on "Curvature of the Spine." The following year he delivered his presidential address to the Orthopedic Section of the Royal Society of Medicine on "Respiratory Rhythm in Physiological Relation to Movement and Posture."

In 1931 Aitken delivered the fourth Hugh Owen Thomas Memorial Lecture; this honor he well deserved—there was no more faithful disciple of Thomas. He spoke on "Rest and Exercise in the Treatment of Joints," drawing on a wealth of clinical experience and radiographic illustration while paying due tribute throughout to the teaching of Owen Thomas. In 1938 he wrote a valuable monograph entitled "Hugh Owen Thomas, His Principles and Practice" (Oxford University Press). For this work Aitken had access to many private papers, photographs and case books, all of which have lately come into the possession of the British Orthopedic Association and are in the care of the Royal College of Surgeons. In his book Aitken contrived to give the essential teaching of Thomas with reproductions of all the splints, and those who fail to gain access to the original writings will find this monograph a most helpful substitute.

Early in life Aitken suffered from a laryngeal malady, which left him with a permanent respiratory disability. Against this handicap he fought bravely, but at times it was distressing to see him embarrassed by paroxysms of coughing, which were beyond his control. His fresh and sturdy appearance belied what he undoubtedly suffered. This physical weakness prevented his participating at full stretch in practice and this, combined with an over-altruistic disposition, stayed the greater recognition that his great experience and ability deserved. His serene temperament and integrity were of the very substance of his being; he possessed a friendly disposition, loved the open air and was fond of sailing. He was a member of the Royal Thames Yacht Club and delighted to entertain his friends there.

With the passing of David McCrae Aitken at Mansergh, Kirkby Lonsdale, on July 9, 1954, there departed the last of that small group of pupils, consisting of Aitken, Naughton Dunn, Alwyn Smith and McMurray, whom Sir Robert Jones trained at Liverpool in the first dozen years of this century, each of whom achieved distinction in orthopedic surgery and contributed to its great advance. These were the men whom Sir Robert first gathered together for the initial staffing of the military orthopedic hospitals at Alder Hey and Shepherd's Bush in the First World War.



Fred Houdlette ALBEE

1876–1945

Dr. Fred Houdlette Albee was born in 1876, the eldest of seven children, on a farm in Alna, Maine. The Albees were of Anglo–Norman ancestry; the Houdlettes, his mother's family, were of a long line of French Huguenots. His maternal grandfather, for whom he had the greatest love and respect, taught him much about tree grafting. This grandparent was a carpenter, a cabinet maker and a master worker with precision tools. What Grandfather Houdlette taught young Fred about the principles of the grafting of fruit trees he learned well and applied later in the grafting of bone.

Dr. Albee was graduated from Bowdoin College, Maine, in 1899, and from the School of Medicine at Harvard in 1903. His first hospital appointment was at the Massachusetts General Hospital in Boston. It was in Waterbury, CT, where he first practiced, that his interest in orthopedic surgery was aroused. This was due largely to association with Dr. Charles Ogilvy, of New York City, who came to Waterbury for orthopedic clinics. In 1906 he moved to New York and became the radiologist and assistant in the dispensary at the Hospital for Ruptured and Crippled at 42nd Street and Lexington Avenue. At this hospital he came under the teaching of Dr. Virgil P. Gibney and Dr. Royal Whitman, the two most noted orthopedic surgeons in New York of that period. In 1906 he performed an arthrodesis of an osteoarthritic hip at the Postgraduate Hospital, a procedure that never before had been attempted. It was bold surgery for those years. The operation was highly successful and resulted in his being invited in 1909 to give a report of the case before a meeting of the American Orthopedic Association. Later that same year he was asked to talk on the operative fusion of the hip joint before the International Association of Medicine and Surgery in Budapest—quite an honour for a young man only 6 years out of medical school. Undoubtedly, this trip abroad so early in his career was the means of expanding his horizons. Later he became one of the great international surgeons of his day, among his honors being the presidency of the International College of Surgeons in 1943.

He was a short, stocky, heavy-set person, similar in build to John Hunter, with somewhat the same fiery, dynamic personality. He was aggressive, individualistic, ambitious, impetuous and impulsive, always wanting to get things done right away. Some of his friends said that he was a law unto himself. He had tremendous physical stamina and ability, and performed hours of work far in excess of the average man. The day was never long enough for him. This ability was probably the no. 1 key to his success. Success usually was his in anything that he set out to do. Some called it "Albee luck," but long hours of hard work, determined energy and bulldog tenacity were more often the reasons. He had tremendous courage in tackling new ideas, especially in surgery, and always concentrated greatly on what he was doing.

In no sense could he be called a modest, humble man; as Mrs. Albee said, "He had no sweet humility." He was not shy, although it was said that, when he first started in medicine, he was timid and shy, particularly in talking. This is hard to believe when during most of his life, as one of his close friends wrote, "he was always preaching Albee and bone-graft surgery" and was "an automatic propagandist." Throughout his life he maintained his youthful enthusiasm. As Mrs. Albee has said, "He was a great man–little boy combination." Perhaps this youthful enthusiasm might be called the no. 2 key to his success.

With his friends he was always frank, cordial, kind and sincere, and usually extremely considerate of the feelings of others, but this was not always so; he had very few close friends among his contemporaries in orthopedic surgery. He did not have what some would call a superior mind. He was not a brilliant speaker; he had a characteristic colloquial style. In all his travels abroad—

and he crossed the Atlantic Ocean 38 times—he never learned to speak a foreign language. At the time of the organization in Paris of the International Society of Orthopedic Surgery and Traumatology (SICOT), of which he was one of the founders and vice president, one of his friends said that all languages were spoken, including that of Albee.

Some have said that Dr. Albee was his own worst enemy. He had his faults, and one of the worst was his love of seeing his name and picture in print, and with this love went an unusual ego. Some say it was an open and frank ego. One of his very close friends called it a "healthy egotism." To many his ego was amusing and not upsetting; however, many became outraged and extremely disturbed in listening to him, especially when he would rise so frequently to discuss papers with little more to say than had already been said. Some who recognized and admired his abilities could not help but wonder why a man who had contributed so much should want always to be in the limelight. Respect could not help but be undermined. This, at times, made him very unpopular, and he lost many friends. One of his close friends abroad said that he learned to understand his simple but complex personality, and that he was more tolerant of his foibles than some of his contemporaries in the United States. Some thought he harmed himself greatly by his vanity in seeking honors; he acquired decorations from 16 different countries. He allowed what some said was plain advertising, as he had the habit of making the headlines.

Albee had little or no social life. According to a close associate, "His home was just another place to work—in no sense a 'homey' home." Mrs. Albee liked to dance, but Dr. Albee apparently never danced. He said to her once that his right foot was a Methodist one and his left foot too heavy to move to music.

Although Albee may not have had dancing feet, he had dancing hands. With them he was a genius. He was an expert carpenter and mechanic of great ingenuity. With his electric saw he inaugurated a new era. Some called him the "world's greatest bone carpenter." His directness in his surgical approach and the dispatch with which he worked were always outstanding: 9 minutes for a spinal graft, 14 minutes for a tibial graft, in the easy cases when everything went right in the operating room.

Albee's original work was a great contribution to medicine and a stimulus to surgery, but perhaps an even more important contribution was what he did in stimulating the thinking and the action of others and in coordinating mechanical and physical principles. He was an inspiration to many, particularly to those who were closely associated with him and recognized his unusual abilities. One has said that his outstanding contribution was in creating solid principles of osteoplastic surgery and adhering to these principles. He spotlighted bone-graft surgery in a way that never had been done before. He lived in an era in which there was a gradual transformation of orthopedics from a specialty of conservative measures with few operations to one of many operations, orthopedic surgeons seeing surgery as a means of treatment. Treatment formerly would have consisted principally of rest, casts and braces—distinctly conservative.

In spite of his many personal weaknesses, Albee, with his friendly attitude and real love of people, acted often as ambassador of good will in foreign countries, particularly in Latin America, where he had many close friends. He set up Latin-American fellowships for study in the United States, and many young orthopedic surgeons from these countries studied under him. An operating room was named after him in Buenos Aires. In 1928 he organized the Pan-American Medical Association and became its first president. He was termed once, on one of his "flying" trips to South America, our "Ambassador in White." On one such occasion, because of his bone-graft surgery, he was referred to as the "Burbank of Surgery," which pleased him greatly.

In 1929, as President of the American Orthopedic Association, he helped to conduct in London the first joint meeting of the English-speaking orthopedic associations. Many who were not admirers felt that Albee, because of his aggressiveness and, sometimes, lack of diplomacy, would not be a good representative of United States; however, those who attended the meeting felt that he presided with dignity and modesty, and most were very proud of him.

There is no doubt that his extensive writing, lecturing and postgraduate teaching were important factors in making the medical profession as a whole aware of what could be accomplished by orthopedic surgery. These are some of the explanations of what made Fred " tick." He ticked loud and long—over nearly four decades (1907–1945)—and there is no doubt that, because of this, very many things that he did—things that we are trained to do today—will endure, and

orthopedic surgeons will be forever grateful to him. This is the man Albee.

Next, what were his contributions? He wrote 234 articles and five books under his own name and two with collaborators. Ninety-eight articles were on bone-graft surgery, 19 of which were on the use of the bone-peg graft for fractures of the hip, 16 on bacteriophages, 14 on arthroplasty, 12 on rehabilitation, 11 on World War I surgery, eight on the reconstruction of the hip, seven on myofascitis, and the remainder on miscellaneous subjects.

The following are some of his major professional accomplishments in the order in which the work was started.

In 1909 he did his original bone-graft operation for fusion of a tuberculous spine. This was reported at a meeting of the American Orthopedic Association on May 15, 1911 (but was not published until September 9, 1911). Just 13 days later, on May 28, Dr. Russell A. Hibbs, of the New York Orthopedic Hospital, published a description of another type of spinal fusion that has since borne his name. For years afterward, there was heated controversy over the priority of spine fusion.

In 1909 he developed an electric saw with special attachments for cutting bone. This was an adaptation of the Kenyon–Hartly saw. Albee showed how the power-driven machine tools of the mechanics' trade could be used in bone surgery as precision instruments, thus increasing tremendously the scope of orthopedics. With this system a new era of surgery commenced.

During 1912 Albee did many bone-graft experiments on dogs at Cornell University School of Medicine. He demonstrated to his own satisfaction that rigid cortical bone was much better for transplantation than cancellous bone. Today many think differently. He also showed that of all the types of transplants, the autogenous graft had the greatest measure of success.

In 1912 he published his first work on bone grafting in ununited fractures. It was in this type of surgery that his tools were most useful and his exactness superb; he would obtain "glass-stopper" fits and create self-sustaining grafts, almost unheard of before this time. During his career he devised bone-graft procedures for nearly every part of the human skeleton. In 1913, in London, at the International Congress of Medicine at the Royal National Orthopedic Hospital, he demonstrated his bone-grafting techniques with his motor-driven saw. In 1914, 4 months prior to the start of World War I, he demonstrated again his bone-mill and bone-grafting techniques at the opening of the German Orthopedic Congress in Berlin.

In 1913 Albee designed a special fracture table that became a most useful addition to the armamentarium of the orthopedic surgeon. In 1936 the table was modified by the use of a central hydraulic hoist and became known as the Albee–Comper table.

In 1913 Albee performed his first extra-articular arthrodesis of the hip with the use of two rigid cortical grafts. Also in 1913 he first performed a bone-peg operation for ununited fracture of the hip. Later he reported 90% good results. This operation, it is said, was a great stimulus to hip surgery.

In April 1917, the United States entered World War I, and in July 1918, Albee, now a Colonel in the US Army, organized and became the surgeon-in-chief and director of an orthopedic hospital at Colonia, NJ. It was a model of its kind and the first reconstruction rehabilitation hospital this country had ever had. At the end of the war, Dr. Albee found that he personally had done approximately one half of all the bone-graft operations performed in the Army Medical Services, most of them at this hospital. It was here that he became more firmly convinced than ever before that in many ways it was more important to restore a patient to normal mental and spiritual health than to physical health, and that in so doing the patient must also be restored to his place in the economic structure of society. From this experience came Albee's deep and lasting interest in rehabilitation as we know it today. It was at Colonia that doctors were taught that their work was no longer confined to the sick room and the operating theatre, but that it was related closely to the economic scheme of things in the very fabric of society itself. In the field of so-called social orthopedics, as well as in rehabilitation, he was a pioneer. Because of his keen interest, the first state rehabilitation commission was established in New Jersey in 1919. Albee became its first chairman. He was reappointed by four governors and continued to be active with the Commission up to the time of his death.

In 1928 Albee first did his original arthroplasty of the knee. This was quite different from any other type that had been done before. It was a V-shaped fore-and-aft wedge. Albee felt strongly that, since one could not duplicate in the human knee the normal gliding mechanism of the

articular bone surfaces, a wedge type of arthroplasty that provided both mobility and stability was to be preferred. As an interposing membrane in arthroplasties, he always used the facial fat graft advocated by Murphy.

In 1929, following the work of his great friend, Dr. H. Winnett Orr, in Lincoln, NE, Albee became very much interested in osteomyelitis. He was convinced that the reason for the success of the closed plaster method of Orr in the infected compound fracture and the old osteomyelitic case was the spontaneous development within the host of a substance that thrived on virulent pathogenic bacteria and completely destroyed them. This substance, in 1921, had been called a "bacteriophage" by D'Herelle, of Yale. It was described as an ultramicroscopic parasite. Albee was able to show a phage appearing in 94% of 100 cases of acute and chronic osteomyelitis. His treatment was to clean the infected material out of the wound completely and then inject a bacteriophage solution into osteomyelitic wounds.

In 1933 Albee described a rather ingenious arthroplasty of the elbow in which, after he had reconstructed the joint, he lengthened the olecranon with its triceps attached—in some ways a comparable operation with his kinesiology lever operation of the hip that had first been described in 1919.

In 1934 he became greatly interested in low-back pain. Myofascitis, he said, was the principal cause. This he described as a low-grade inflammatory change in the muscles and the fascia, with the fascial insertions of the muscle to bone becoming hypersensitive because of toxic inflammatory or metabolic changes. Focal infection was found to be a factor in 52% of his cases. His treatment for this condition was, first, the removal of the foci of infection. He emphasized colonic irrigation and the introduction of *Bacillus acidophilus* by mouth or colonic implantation.

Such is part of the story of the life of Fred H. Albee, pioneer surgeon. Truly, he was an outstanding personality in the most progressive era of orthopedic surgery of all time. He once wrote, "I have never liked looking back." This, I am sure, he never did, for he was always looking forward; he could not have been the pioneer that he was and lived the full, active life that he did had he spent time in looking back.

Lewis ANDERSON

1930–1997

Lewis Anderson was born in Greensboro, Alabama, on October 13, 1930. He attended Emory University in Atlanta from 1947 through 1949 and received his MD degree from the University of Pennsylvania in Philadelphia in 1953. He married Stella Stickney Cobbs in 1951. After completing medical school, Dr. Anderson served as an intern at the Hospital of the University of Pennsylvania in 1953 and 1954 and then began a residency in general surgery at the same institution. His training was interrupted by 2 years of active duty in the United States Naval Medical Corps, during which he served as the senior medical officer on the submarine USS Orion. He subsequently completed his residency at the Hospital of the University of Pennsylvania. He received his orthopedic training at the Campbell Clinic in Memphis from 1957 through 1960. On completion of his training, he served as an instructor, as an assistant professor, as an associate professor, and, from 1971 to 1977, as Professor of Orthopedic Surgery at the University of Tennessee Center for Health Sciences in Memphis.

While at the University of Tennessee, Dr. Anderson began a series of studies that demonstrated that fractures healed well with rigid internal fixation with use of compression plates. Although the bones did not heal faster with these techniques, he noted that immobility of adjacent joints, joint stiffness, malreduction, and nonunion—all well-known complications of

closed treatment of fractures—often were avoided and that the overall rate of morbidity and complications was greatly reduced with early motion, which could be used in conjunction with rigid internal fixation.

In 1967, Dr. Anderson was an American–Canadian Exchange Traveling Fellow, along with Dr. D.K. Clawson, Dr. Richard L. Cruess, Dr. G. Dean MacEwen, Dr. Charles A. Rockwood. Jr., and Dr. Antoni Trias.

Dr. Anderson, together with Dr. T. David Sisk, Dr. Robert E. Tooms, and Dr. William I. Park. III, reported on his pioneering work in a paper entitled "Compression-Plate Fixation in Acute Diaphyseal Fractures of the Radius and Ulna" published in the April 1975 issue of *The Journal of Bone and Joint Surgery*. Not only did this change in technology have a dramatic effect on the treatment of fractures of the forearm, it also paved the way for the general acceptance of many of the concepts of rigid internal fixation for other types of fractures. Dr. Anderson was asked to review all three editions of the *Manual of Internal Fixation*, by the AO Group, for *The Journal of Bone and Joint Surgery*; the reviews appeared in 1971, 1980 and 1992.

In 1977, Dr. Anderson became the first Professor and Chairman of the Department of Orthopedic Surgery at the University of South Alabama in Mobile. In 1989, he was named the Louise Lenoir Locke Distinguished Professor of Orthopedics. He served as President of the Board of Directors of the University of South Alabama Health Sciences Foundation from 1979 through 1982 and again in 1985, as Secretary–Treasurer of the Medical Staff of the University of South Alabama Medical Center in 1979, and as President of the Professional Medical Staff of the University of South Alabama from 1980 through 1982. In 1986, he was appointed Interim Dean of the University of South Alabama College of Medicine. He was named Vice President for Medical Affairs at that institution in 1987 and retained that position until 1992. After his retirement in 1993, Dr. Anderson was named Emeritus Professor of Orthopedic Surgery at the University of South Alabama. In 1996, he returned from retirement to serve as Interim Chairman of the Department of Orthopedic Surgery in order to provide continuity to the residency program that he had founded and that he loved.

Dr. Anderson was a Member of the Alabama Orthopedic Society, serving as its President in 1986 and 1987. He also belonged to the American Academy of Orthopedic Surgeons, the American Orthopedic Association, the American Medical Association, the Southern Medical Association, Alpha Omega Alpha, and numerous other local and regional organizations. He was the author of more than 60 articles that were published in medical journals and of more than 20 sections and chapters that appeared in textbooks.

Despite having been plagued with severe ankylosing spondylitis for approximately the last 50 years of his life, he rarely complained and always demonstrated tremendous energy and good nature. He became a leader early in his career and was the model of a true "southern gentleman."

Orthopedic surgery lost one of its true pioneers on October 18, 1997, when Lewis D. Anderson, MD, died at the age of 67 in Mobile, Alabama, after a brief illness. In addition to his wife, Dr. Anderson was survived by four children.

Nicolas ANDRY

1658–1742

The "Orthos Pais" or great seal of the American Orthopedic Association and the emblem of the crooked tree being straightened by a splint, used by the British in their Presidential Badge of Office for the American Presidents at the London meeting in 1953, are tributes to Nicolas Andry, who published the first book on orthopedic surgery, in 1741.[1]

Other than these tributes, Andry has had too little recognition, either for his broad view or for

his conception of the details necessary for the proper care of the crippled child.[2,3] Andry is so little known as a person that his name often is misspelled "André," the name of a later French surgeon who is distinguished for having "patented" some catheters and urethral bougies and for a text on diseases of the ureter. Andry was a historian (a characteristic of all sound innovators), a writer and an official high in the councils of the medical scholars in Paris.

Andry said of the title of his *L'orthopédie*:

> As to the Title, I have formed it of two Greek Words, viz. Orthos, which signifies streight [sic], free from Deformity, and Pais, a Child. Out of these two Words I have compounded that of Orthopaedia, to express in one Term the Design I propose, which is to teach the different Methods of preventing and correction the Deformities of Children.[4]

In the English edition the spelling was changed from the French "orthopédie" to "orthopaedia," presumably to avoid the "pedis" (foot) connotation. In his very useful *Source Book of Orthopedics*, Bick spelled the name "André" and took the title from the English edition. However, Andry of course was presented correctly in every other way in Bick's text.[5]

Historical Survey

Andry's preoccupation with muscular contraction as a cause of deformity influenced nearly all of the French orthopedic specialists who followed him. In fact, one might suppose that the great John Hunter got some of his ideas, which he elaborated so well, from Andry's work, published when Hunter was 13 years old.[6] Because of his special interest in the muscular system, Andry was led at once to the use of exercises and good posture in his prophylactic and curative expedients. In this way he undoubtedly influenced Venel, Delpech,[7] Ling and perhaps Hunter;[8] the extent of Andry's influence cannot be measured easily, but there are indirect evidences that it might have been considerable.

The great orthopedic biographer, Sir Arthur Keith, somewhat dismissed Andry and his *Orthopaedia* with the comment that Andry was the first to grasp to the full the role of the muscles as body moulders. However, he does say that "in M. Andry we meet the veritable founder of many of our modern orthopedic practices." Keith directed our attention to the tendency of Andry and others of his time to attempt artificial "improvements" upon the human figure, as was being done with so many plants, trees and flowers. Thus, he credited Andry and his generation with many of the devices for shaping the features, the waist and much of the body, dyeing the nails and altering the eyebrows, the ears and the nose, the stock in trade of the "cosmetologists" ever since.

Andry was most observant, Keith said, of the defects in posture and gait, which lead to disability and deformity; although lacking information about anatomy and physiology, he was most intelligent in his conclusions about measures required for correction. Keith did not mention it, but there are similarities between these observations and conclusions by Andry and those of the celebrated Sir Arbuthnot Lane, whose application of surgery to the position and the movement of human parts probably has not been excelled.

Keith joined the critics of "rest" to the extent that he quoted Andry's argument for exercise as follows:

> Asclepiades and Erasistratus have boldly condemned all forms of exercise as not only of no advantage, but even prejudicial to health, and recommended rest as the chief preserver of it; but they were very much mistaken in this point. Rest deserves its own share of praise; it is a restorer necessary in the course of a great many diseases.

Thus we see that the founder of orthopedics recognized that rest, as well as action, had its own particular therapeutic merit, but of the two, action was that to which he attached the higher value.[9]

In Garrison's excellent *History of Medicine* there are two references to "André," the first undoubtedly to Andry, for having introduced the word "orthopedic"; the second is for having been the first to describe infra-orbital neuralgia (1756).[10] This latter reference by Garrison to "André" is obviously to Nicolas André (spelled correctly in this instance) and his work on "maladies de l'urèetre" (1756). Garrison erred again, I think, in crediting Venel with the establishment of the orthopedic specialty because he founded the first institution for the treatment of deformities (1780).

Andry's earlier work on animal parasites, *De la génération des vers dans le corps de l'homme* (1700), showed extensive observation and much literary labor. However, it is interesting that some of the descriptions and the illustrations are remi-

niscent of Ambroise Paré's section on "monsters."[11,12] One gets the impression that Andry accepted both text and illustrations from other authors for some of the "specimens," which he had not seen himself. A contemporary, Valisnieri, thought that Andry claimed to find worms at the bottom of every human disorder and gave Andry the nickname of "Vermicilosus," by which he was called for many years.

Caulfield (1928), in an interesting review of *A Full View of All Diseases of Children* (1742), dismissed Andry and his *Orthopaedia*, only giving him credit for the term "*orthopédie*." However, Caulfield was interested in the *De la génération des vers dans le corps de l'homme*, of which the English edition appeared in 1701. Caulfield reported that there was little originality in Andry's work on human parasites, with "many of the earlier paediatricians having contributed to this subject but after all, it wasn't a bad working basis for that time and forms a very necessary chapter to our little compilation."[13] Caulfield was preoccupied with the apparently unknown author of *A Full View of All the Diseases of Children*, which had been attributed to John Martyn (1699–1768) by G.F. Still.[14] It appears to me that Andry, situated as he was and with the book having appeared the year following his *L'orthopédie*, very well may have had a hand in it.

Andry pursued his studies first at the College des Grassins, with the intention of becoming an ecclesiastic. Later he studied medicine at Rheims and Paris and received his medical degree in 1697 at the age of 39. He became a professor in the College of France in 1701; a member of the Editorial Committee of the *Journal des Savans* and in 1724 became Dean of the Faculty of Medicine.[15,16]

Andry made many contributions to the medical and the scientific literature of the period. Some of these, such as the one on animal parasites, were not received very well. He added to his unpopularity by leading the movement to require all written contributions on medicine, surgery and pharmacy to be submitted to the Faculty before publication. Also, he was among those who persuaded the Cardinal to issue the proclamation that, "desormais les Chirugiens, au moment de faire quelque grande operation se feraient assister d'un docteur." This was duly announced in Andry's *Journal*.[16]

In the list of Andry's writings are papers on bleeding, purging, foods, the chemistry of certain medicines, an "unjust" critique of the work of J.L. Petit on diseases of bones and, of course, his last work, *L'orthopédie* (1741). He published a second edition of his work on animal parasites in 1702, which was an attempt to reply to the numerous critics of his first one in 1700.

Dezeimeris, an extremely valuable bibliographic source (not mentioned by Garrison), gave some details about the time between Andry's qualification for the clergy and his beginnings in medicine.[17] Andry got his degree as Master in Arts in 1685 and did not abandon the ecclesiastical robes until 1690. After obtaining his medical degree at Rheims, he was received by the Faculty in Paris. When this body was suppressed by Louis XIV, Andry presented himself to the new Faculty and was given his bachelor's degree the same year (1696).

Dezeimeris continued that in spite of doubtful motives and much controversy between Andry and the Medical Faculty, Morand, Garengeot, Boudon and the other surgeons were required to submit to medical consultation before their surgical operations. Other surgeons not so well known, for whom this practice probably was particularly intended, are not mentioned.

Of more importance to us is the statement by Dezeimeris that *L'orthopédie* was Andry's most important work. Walter Stuck, in his very good article, was one of those who give Andry (spelled "André") a secondary place (as does Garrison) and accord Venel, with his "clinic," greater credit for the origin of orthopedic surgery as a specialty.[18] As I have already indicated, I do not agree with this view. Andry's two volumes, *L'orthopédie*, provide a very complete foundation for most of the practices of orthopedic surgeons, especially the French, since 1741.

The author of Andry's biography in the earlier *Biographie Univérselle* (1843), doubtlessly upon the authority of some of Andry's critics, wrote that with "un peu de merite et une grande talent d'intrigue" he obtained his various positions of importance and responsibility in the medical affairs of Paris.

However, any review of his life from his student days onward suggests that Andry lacked neither ideas nor courage, and his industry in numerous directions (making due allowance for the opposition he encountered) indicated a keen desire for knowledge and a disposition to be of service to his profession. These are fair qualifications for a medical man in any age.

This same biographer asserted that in suggesting that a surgeon always should have a medical

consultant for his major operative procedures, Andry simply was trying to dominate the whole Faculty himself. It might appear, from this distance in time, that Andry, having begun a specialty, saw, as we often have seen since, that supervision of surgical procedures being done by many kinds of surgeons had advantages that were not apparent or at least not acceptable to all of his contemporaries.

Andry's contributions to the *Journal des Savans* covered a period of 57 years, continuing to appear until 1759, 17 years after his death.

Comments and Observations

That Andry was entirely aware of the skeletal factor in some deformities is indicated by one of his earliest statements about curvature of the spine:

> Crookedness of the Spine does not *always* proceed from a fault in the Spine itself, but is sometimes owing to Muscles of the fore part of the Body being too short, whereby the Spine is rendered crooked, just as a bow is made more crooked by tying its Cord tighter.

Andry had plenty of precedent for his use of bandages and splints for the prevention and the correction of deformity. Such excellent works as that of Guido Guidi (Vidius), published in Paris in 1544, provided him with illustrations from the surgery of Hippocrates, Galen and Oribasius.[19] Many of these illustrations, so well done by Primaticcio, were primarily for wounds and fractures, but all of the fundamental ideas for the control of position, and even for immobilization, were inherent in these earlier publications.

Andry discussed club foot quite thoroughly in a short paragraph:

> That Tendon which goes from the Calf of the leg to the Heel, is sometimes so short, that the Person is obliged to walk upon the fore part of his Foot, without being able to set the Heel to the Ground . . . Children are sometimes born with this Defect, and sometimes they come by it afterwards. In either Case it may be cured, provided this Shortness does not proceed from any violent Cause, which has absolutely maimed the Tendon, such as a Burning after Birth, for example, or any other Accident that is capable of rendering this Shortness incurable.

Under "parathesis" there is an apparent reference to a post-paralytic disability of the hand:

> . . . (for it is only by this ["nervous"] fluid that they are able to contract) they are not sufficient to resist the Force of their Antagonist muscles, viz. the Flexors . . . In the first place, it must be observed, that the Deformity we talk of is commonly the effect of a bilious and convulsive Colic which has preceded it.

There are sections of Andry's book dealing with "bolt-feet, corrective shoes, bowlegs, congenital dislocations, including the hip, curvature of the spine, active and passive motion and defects."

Of supernumerary fingers, he said:

> . . . the supernumerary one is commonly the Thumb. But whatever Finger it is, you ought to consider whether it is only Flesh, or Flesh and Bones like the rest. If it is only Flesh, it may easily be taken off, by the means of a Ligature of Silk tied about the Root of it. The Ligature must not be tight at first, but some days after it may be tied a little tighter, . . . and so proceed to straighten the Ligature by degrees, till at length the Finger withers and drops off of its own accord, without putting the Child to any considerable pain.

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Thomas ANNANDALE

1838–1908

Thomas Annandale, since October 1877, has filled the Chair of Clinical Surgery, which was for so long a time held by the greatest surgeon of the nineteenth century, James Syme. He was born early in 1838, in Newcastle-on-Tyne, where his father practiced for many years. He was educated at local schools and after an apprenticeship of two years in connection with the Newcastle Infirmary, he began his professional studies in the University of Edinburgh in 1856. His University career was not what is called an "all-round" one, for he early confined his attention to Surgery, which was to be the chosen line. He was soon distinguished among his fellow-dressers for his diligence, his constant work on the wards, his neat-handedness, and the zeal with which he collected, dissected, and preserved any morbid specimen he could procure, either in wards, operating theatre, or dissecting-room. He was soon known to the House-Surgeon as a safe man to have ready on the nights when on duty, and, still better, as a good man to take to private operations with the "Professor".

After graduating, and obtaining a gold medal for his graduation thesis and having taken the M.R.C.S., Dr. Annandale acted for a short time as assistant to the late Dr. William Brown of Melrosee (brother to the author of *Rab and His Friends*), and then in 1860 became House-Surgeon to Professor Syme. After filling his term of office with much zeal, he became one of the junior demonstrators of Anatomy in the University, and was appointed by Professor Syme as his private assistant. This event confirmed the young surgeon in his determination to be steadfast to Surgery. He then became a lecturer in the Extra-Mural School, first on Systematic and afterwards on Clinical Surgery. He was appointed Assistant-Surgeon to the Edinburgh Royal Infirmary, and in his turn became full Surgeon, which post he held when elected in 1877 to the Clinical Chair.

Professor Annandale has been a diligent writer on Surgical subjects, having in 1864 published his Jacksonian Prize Essay on the "Malformations, Diseases, and Injuries of the Fingers and Toes, and their Surgical Treatment." He has also published a work on "Surgical Appliances," and "Minor Operative Surgery," and in the current year he has written the article on "Diseases of the Breast" in *Ashurst's International Encyclopaedia of Surgery.*

So numerous were his minor papers, that between 1860 and 1877 no fewer than seventy-four separate contributions are recorded. Since 1877, and the responsible duties of a University Chair, only fifteen more can be discovered. Among so many, there must be great variety in value and importance, but all Professor Annandale's papers are practical in character, describing successful cases or modes of treatment, chiefly operative, indicating or originating advances in method. His style has all the simplicity of a personal narrative, though it cannot be said to reach the marvellous terseness and quaint Hebraic force of his great master. There is no doubt that the author has kept in step with surgical progress. As a teacher, he is thoroughly sound, and as an operator he is skilful, careful, quiet, and unobtrusive, without dash or show: the thing, however difficult, gets done in an excellent way.

When assistant to Professor Syme, he was as good an assistant as could be imagined—always ready, forgetting nothing, perfectly quiet, never discouraged, and never discouraging. To such qualities as these many serious and brilliant operations in the later days of his great master's life owed much of their success.

Professor Annandale takes little interest in medical politics, but he is a good citizen, and is always ready to lend a helping hand to a set of Health Lectures, or any other popular fancy of the time. Pleasant and courteous to all, he is an excellent example of success fairly earned by single-eyed devotion to one line of work and to one great teacher.[1]

This biographic note by an unknown contemporary is quoted in full because it demonstrates that the criteria for success in academic surgery have not changed in over 100 years. Annandale

does not give any information regarding the type of anesthesia employed or the type of antiseptic/aseptic operative technique used for his arthrotomy in 1883. A junior staff man during the period in which Lister was perfecting his sterile techniques at the Royal Infirmary, he was thoroughly familiar with Lister's methods. Indeed, it was the work of Lister that permitted Annandale to be an aggressive, innovative surgeon.

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Alan Graham APLEY

1914–1996

Alan Apley was born in London, the youngest son of Polish parents; his father had served in the Russian Army. In South London, Alan, his two brothers and one sister all showed the intelligence and energy often seen in second-generation immigrants. His success at London County Council schools in Battersea and at the Regent Street Polytechnic led him to medical studies at University College Hospital in London. He qualified MB BS in 1938 and became a Fellow of the Royal College of Surgeons of England in 1941. He then served during the Second World War as an Army medical officer in India.

Returning to London, he completed his orthopedic training and in 1947 was appointed as a consultant to the Rowley Bristow Orthopedic Hospital at Pyrford on the south-western outskirts of London. This was one of a number of tuberculosis hospitals, which had been developed into centres of orthopedic excellence. It had close links with St. Thomas' Hospital and with George Perkins, the inspirational Professor of Surgery. From him, Alan Apley absorbed an understanding of the pathology and the healing of orthopedic and traumatic lesions, which was to be the sheet anchor of his own clinical work.

His talent for teaching soon became apparent, and lectures at Pyrford developed into a special course for the Final FRCS, starting in 1948. This was then the basic selection examination for all branches of surgery. Would-be surgeons, especially those with little orthopedic experience, found the two long weekends at the Rowley Bristow an essential if somewhat frightening preparation for Finals. The orthopedic knowledge was so well organized that typed notes were requested, copied and passed around. These were seen by Ian Aird, the fiery Professor of Surgery at the Royal Postgraduate Hospital in Hammersmith, who sent for the author and instructed him to turn them into a book.

The first edition appeared as an unillustrated softback in 1959, interleaved with blank pages for personal notes. It was an immediate success. When the publishers offered to print a limited number of pictures for the second edition, Alan Apley's typical response, involving much labor was to produce that number of composites, each containing a large number of postage-stamp, but perfectly adequate, images. Keeping this book up to date would have daunted many, but not until the sixth edition did he recruit Louis Solomon as coauthor. It is now in its seventh edition as *Apley's System* and a concise version is in its second edition. It is so popular throughout the world that pirated editions have appeared, which Alan found rather flattering. His latest work with Professor Solomon on clinical examination will now be published posthumously, although he saw an early copy before he died. Many other books had the very considerable benefit of his coauthorship, editing or other assistance.

The FRCS courses continued, becoming known as the "Apley" course. Their success led to requests for more, at home and overseas. He

always responded, using to advantage his wonderful collection of slides. He directed many courses at the Royal College of Surgeons of England and it was no surprise when in 1973 he was elected to its Council by a record vote. He enjoyed the administrative and intellectual challenges and was a vice president from 1983 to 1985, delighting in the ceremonial. He was appointed Director of Orthopedics at St. Thomas' Hospital in 1972, and was Honorary Treasurer of the British Orthopedic Association from 1972 to 1977 receiving the rare distinction of Honorary Fellowship in 1985, having delivered the Robert Jones lecture in 1978 and the Watson–Jones lecture in 1984, appropriately enough on "Surgeons and Writers."

Alan Apley became the editor of *The Journal of Bone and Joint Surgery* in 1984, at the age of 70 years, with undiminished energy and firm views on standards and presentation. He selected and rejected articles with great care; his letters to disappointed authors were all written by hand, in pencil, and revised before they were typed. They were always encouraging, never unkind; some authors, delighted with his response, discovered only at their second read that their work had not been accepted. His other great skill was the ability to edit a muddled or ugly sentence into clear prose. Under his kindly editorship, authors felt happy to submit their work; there was a steady increase in the number of submissions and the beginning of the now firmly international content of the *Journal*.

After retiring again, at 75 years of age, he increased his teaching and writing activities. In 1990, for example, he gave instructional courses or major lectures in 11 countries. When he became ill in autumn 1996, his aim was to be fit for a teaching visit to Australia planned for spring 1997.

He knew that he had unique gifts of expression and presentation, but rarely explained and never mentioned the hours of hard work, the patience and the dogged persistence that had produced such results. His insistence on the "drawer" method of writing papers and lectures was not theoretical; his own work was always put away for later review and polishing, many times. Pencil and paper were his tools; a lecture or a chapter of a book would undergo painstaking revision after revision. The "spontaneity" and the "readability," the clarity, the memorable phrases, and even the jokes, were carefully orchestrated and timed. Each lecture was reviewed after delivery, improved, and rememorized for the next fortunate audience.

In all of these ways Alan Apley had a pivotal influence on the worldwide development of orthopedic surgery. In his patient manner he insisted, sometimes quite firmly, on the continuing value of many "old-fashioned" virtues: listening to the patient, careful clinical examination, and an understanding of the biological processes of disease and repair. Many of his interests, however, were wider. He skied and was an accomplished pianist, continuing to play in small chamber groups to the time of his last illness.

His final and richly deserved honor was the award of the Honorary Medal of the Royal College of Surgeons of England. This was established in 1802 for "liberal acts or distinguished labours, researches and discoveries eminently conducive to the improvement of natural knowledge and the healing art." It had not been awarded since 1989, and previous medallists include Sir Alexander Fleming, Frederick Wood Jones, Lord Webb Johnson, Lord Brock, and Sir Stanford Cade. In his own quiet way, Alan Apley fully deserved to be added to this distinguished list.

With the death of Alan Apley on 20 December 1996, the orthopedic world lost one of its best-known and best-loved teachers and writers. For over 50 years, in an unassuming and often self-effacing way, he used his skills in communication to help and to guide the expansion of orthopedic knowledge and practice. He maintained a clear view of the essentials, viewed each advance in the light of his experience, and always emphasized a hands-on, clinical and caring approach to patients. Throughout his life he engaged in distilling the important facts from the mass of new information and then presented them in clear and memorable words.

His eldest brother John, a distinguished pediatrician, died before him. A second brother, Martin, lives in London. His son Richard and his daughter Mary, from his first marriage to Janie, have both inherited his interest and skill in music. His second wife, Violet, brought great joy into his later years, supported him in his travels and cared for him with amazing optimism and energy during his final illness.

Alan Apley devoted most of his indefatigable energy to the teaching of postgraduate students and orthopedic surgeons worldwide. How fortu-

nate it was that he lived long enough to dedicate five full decades to this.

Alan's internationally famous "Pyrford Postgraduate Course," held twice each year, was attended by well over 5,000 orthopedic trainees and surgeons from the UK and countless other countries. It may be less well known that he organized and lectured at annual satellite courses for 18 years in New York and for 15 years in Toronto.

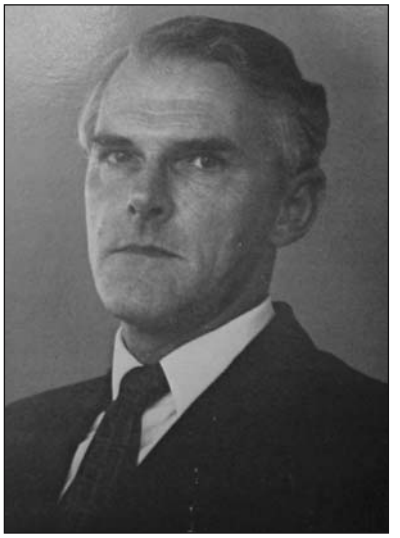
His lectures on orthopedics and fractures were superb. Having yearned to be an actor, he did have some theatrical training, and his presentations at home and abroad reflected this flair. His dramatic delivery gave clarity and impact, which was seasoned with a delightful sense of humor. Alan was also in great demand as an invited Visiting Professor. He served in this capacity in seven universities in the United States, four in Canada, four in Australia and 22 in other countries throughout the world.

He was equally effective with the written word. His internationally acclaimed textbooks have been used by hundreds of thousands of students and orthopedic surgeons worldwide. It is understandable that he became a legend in his own time, and is entirely appropriate that the sixth and seventh editions have been coauthored by Louis Solomon as *Apley's System of Orthopedics and Fractures*.

He has certainly been the finest, the most effective and the most respected teacher of orthopedics and fractures of this century. He has been *facile princeps*, easily the first, and his magnificent contributions as a teacher will live on through his inspiring books.

Alan Apley was an enthusiast. His exceptional ability with written and spoken words displayed a clear and well-ordered mind, which enabled him to reduce every problem to its essentials. Anyone who worked closely with him in any of his many distinguished roles soon became aware of these remarkable qualities. He could extract the essence from a paper or a discussion, pick out the salient points, and give a fair and unbiased opinion, usually in a crisp and amusing way.

He will also be remembered for his innate sense of humor, which made him a wonderful companion. On a lecture platform, in a council or a committee, in a large or a small group, at work or at play, it was always fun to be with him.



Christopher George ATTENBOROUGH

1922–1979

Born in 1922 into a medical family, Christopher Attenborough was first educated at Marlborough College and then went to Trinity College, Cambridge, followed by King's College Hospital, qualifying in 1944. He entered the Royal Navy after doing the necessary few months on the House, working under Dr. R.D. Lawrence, Mr. Jennings Marshall and Mr. H.L.C. Wood. He was soon posted to the East Indies fleet, where he served as a surgeon lieutenant in destroyers, including HMS Vigilant when it went into Singapore at the end of the war, and he was in the detachment that released the prisoners of war from Changi Prison. Later he served in a naval hospital for 6 months before returning to England in 1947, continuing his training at King's College Hospital under Sir Cecil Wakeley and others. A year at the Metropolitan Hospital as orthopedic registrar preceded his appointment in January 1952 as first assistant to the orthopedic and accident department of the London Hospital under Sir Reginald Watson-Jones and Sir Henry Osmond-Clarke.

When Christopher published an article it was an event. He never wrote "pot boilers" but confined his publications to important contributions to orthopedic knowledge. Thus in 1953 he published in *The Journal of Bone and Joint Surgery* a paper on the remodeling of supracondylar fractures of the humerus in childhood. In 1966 he

described his operation for severe congenital talipes equinovarus, which still maintains a great influence on the treatment of that condition.

He was appointed orthopedic consultant to the Bromley Group of hospitals in 1956. His years in Bromley were extremely busy so that he was not able to get about to meetings, nor did he have much time for research. He took on a great burden of children with chronic diseases in particular, such as spina bifida and cerebral palsy. He attended the Cheyne Hospital and the Sydenham Children's Hospital. He had to build up the orthopedic department at Farnborough Hospital and was involved in the setting up of the Accident Service at Bromley. He was on his own in those days and his duties held him to his work.

About 1967, seeing his wife Sheila put up some net curtains on curtain springs, he decided to adapt springs to surgery and had them made in stainless steel. First they were used for lumbosacral fusion, for which, to those who use this method, there is no better way of achieving early mobility with sound fusion. Soon the springs became used for the stabilization of other conditions, such as the fractured olecranon, to give only one example.

In 1970 Christopher moved to Hastings and was at once at home, both clinically and mechanically. He made excellent use of the orthopedic workshop, wherein he designed his knee prosthesis in a remarkably short time. It was not only the knee that attracted his attention, for he was interested in replacement of other joints and his elbow prosthesis was under trial; he was working on finger, wrist and ankle prostheses up to the time of his death. He had evolved the very important concept of a stabilized and gliding joint replacement and was applying this to the other joints mentioned. It is a tragedy that many patients will be denied the better prostheses that his inventiveness would have undoubtedly produced in the future.

Christopher described his interests as being in orthopedics and family life. The former was divided into the surgery of arthritis, congenital deformities and cerebral palsy. It is not surprising, therefore, that in 1975 he was appointed Hunterian Professor and gave a most erudite and sensible appreciation of the problems of the arthritic knee and its prosthetic replacement followed by an elegant description of his own, equally elegant, technique of doing his now world-famous knee replacement. His other interests were based on his family and home. He enjoyed drawing and gardening, he was captain of the bell ringers in his village church, and he took part in parish activities. Nevertheless, in the seclusion of his Sussex home he did many hours of painstaking research, notably into better designs of joint replacements and in modifying those already produced, because—being a perfectionist—he was never satisfied that he had achieved the final design.

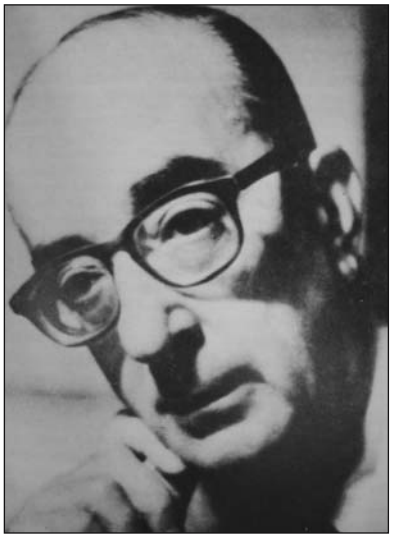
Christopher's career written in terms of technical or orthopedic success is insufficient, because his real greatness was as a leader and a colleague. He was friends with everybody and inspired his colleagues and staff. He could get work done and, if he was displeased by its quality, he was prepared to say so. This criticism, always being just and fair, increased the respect of those concerned and made them more determined than ever to rectify matters and achieve the improvement demanded of them. In a very short time he had become internationally famous for his work on arthroplasty, particularly of the knee. He was in constant demand for lectures, both at home and overseas, and his company was sought after by all who knew him.

An example of courage is an edification to us all, and so when Christopher Attenborough died on June 13, 1979, at the age of 56 after a long illness, he left behind a great sense of achievement and an uplifting respect. At one stage of his illness he made a determined recovery; against all difficulties he returned to his clinical duties and to operating, including his total knee replacements. This epitomizes Christopher's life, because no problem or difficulty was too great to overcome; throughout his career he was a steadfast courageous surgeon on whom others could lean for advice, encouragement and strength.

Georg AXHAUSEN

1877–1960

Georg Axhausen graduated from the Military Medical Academy of Berlin, remained in the German army for some years and started his academic work in Kiel in 1904–1906. After several more years with the army, he returned to Berlin as instructor in the surgical division of the Zahn-ärztlichen Institute. He was one of the pioneers in studies of bone graft and necrosis. Necrotic bone was frequent in prechemotherapy days so that studies in noninfections, that is aseptic bone necrosis, were innovative. He was the first to use the word aseptic necrosis, or at least the first to appear in the mainstream of medical publications. Phemister's work on the same subject followed and recognized Axhausen's contribution, and Phemister's famous phrase "creeping replacement" is well described in Axhausen's work. In the 1950s the term avascular necrosis came to replace aseptic necrosis. The original paper covered 20 pages but contained much detailed criticism of contemporary work and theories irrelevant to today's readership and have been left out of this edited reprint.



José Luis BADO

1903–1977

Thinker, philosopher, doctor, surgeon, orthopedist, Bado placed a really brilliant mind at the service of his ideals. Nature generously endowed him with the divine gift of a powerful intelligence, which was strengthened and enriched by information acquired through study and meditation, through the capacity to think clearly, and through an incomparable gift of synthesis; the colossal knowledge he acquired was generously spread to others through his exciting, easy, elegant, brilliant, and persuasive oratory.

Bado was an inexhaustible source of encouragement to his pupils to study and meditate; these pupils are to be found not only in his native country, but all over Latin America. In transmitting his knowledge, he did not just teach the principles and goals of a medical discipline; he taught how to understand, how to analyse, and how to synthesize; he taught how to think, how to meditate, how to reflect. His pupils heard him say very often: "Observation is not enough; one must think; observation without thought is as dangerous as thought without observation."

He practiced the principles that he preached with complete devotion. He took note of the clinical facts pertaining to our field, meditated on his notes, interpreted them. He studied methods and techniques, trying to improve them and to use them under the strict control of basic concepts. He put forward original concepts, gathering around them groups of diseases, ostensibly unconnected with each other.

His works and thoughts have been widely published in his country, in Latin America, North America, and Europe. His scientific training and his ideas are highly respected and considered in all the important trauma–orthopedic centers.

José Luis Bado was born in Montevideo, Uruguay, on July 8, 1903. He graduated first in his class from the Montevideo School of Medicine in 1928 and, after working in surgical clinics and teaching in anatomy theaters, he went to the Istituto Rizzoli in Bologna, Italy, the Mecca of the field at that time, where he spent two years specializing under Vittorio Putti.

Upon his return to Montevideo, he instituted specialization in orthopedics and traumatology, which had been considered a branch of general surgery. He then built the model Instituto Traumatológico de Montevideo, later called Instituto de Ortopedia y Traumatologia. He created, organized, and gave technical and scientific personality to this magnificent institute, which he headed until his death.

Very demanding of himself and of those who worked with him, he turned the institute into one of the most efficient schools, to which young specialists have flocked from all Latin-American countries, including many from Brazil.

When the Chair of Orthopedics and Traumatology was created at the School of Medicine of Montevideo in 1951, he sat for the examination and became the first titular professor of the specialty in Uruguay. His unequalled skill as a teacher brought to the recently created Chair an exceptional brilliance: his wealth of information, his devoted and meditated clinical observation, his clear and logical thinking, his formidable power of synthesis, and his capacity to extract ideas were transmitted through magnificent, clear, simple, luminous speech—he was an orator of complete humanistic culture.

Professor Bado published 130 scientific papers and 12 books. Founder of the Sociedad de Ortopedia y Traumatologia of Uruguay and of the Latin-American Society of Orthopedics and Traumatology, he belonged to all of the important cultural societies of the specialty.

His life, devoted to medicine, study, and meditation, played an important and noteworthy part in the development of Latin-American orthopedics. His writings are a bottomless source of inspiration to those who, like myself, had the immense privilege, as his pupil, to have him as an intimate friend.

One of his most brilliant pieces of writing, which touches on the teaching of the specialty and which was read in a speech in 1971, is quoted here:

> Teaching presupposes the presence of two fundamental factors: the Professor and the Pupil. This latter must, essentially, wish to be a pupil in order to be able to reach the goal he has set himself, in a quasimystical attitude of reception, of devotion to the master, without slavery and without compromising his own personality, with the possibility of understanding and not of obeying, of admiring, of wanting, never of fearing or of being surprised.
>
> It is also important that he who teaches should do so with pleasure; that is, do so as if he were giving the others something he generously wishes to transmit freely. An egotistical master cannot exist. To teach is to offer something acquired which is to be transmitted and if it is not thus, becomes uncomfortable within oneself and causes a sensation of private uneasiness, which only disappears when, offered to others, not as something to be obeyed by law, but interpreted and meditated as a thought.
>
> Very frequently what we offer is of apparent simplicity and of little value; but hidden within there beats the germinating power of the seed which does not outwardly permit one to see its capacity of bearing generous fruit. One cannot guess the future of what one sows, only the permanence of the harvest. This is not a reward, it is a result; it does not attract us with its glory, we are rewarded by its reality and its hidden promise of new and consecutive harvests, the affirmation of the continuity of something which time will not destroy but which will recur, through unceasing and repeated consecutive flowerings.

These precise words carry us back with immense nostalgia to many summer nights in Montevideo when, sitting on the veranda of his hospitable home, we listened, for hours on end, to the voice of the master, of the thinker, of the philosopher, of the great orthopedic surgeon.

Professor José Luis Bado died in Montevideo, Uruguay, on December 19, 1977. José Luis Bado was, above all, a great master, great in his generosity and eagerness to spread the light of his exceptional spirit, of his incomparable intelligence, of his unique talent.

In favor of short, concise sentences and phrases, he lived his noble life in accordance with the inscription that hung in his study at the Instituto Traumatológico y Ortopédico de Montevideo, the place where he mostly taught. The inscription reads: "Work and meditate; work trains the hand, meditation kindles the spirit."

William J. BAER

1872–1931

The specialty of orthopedic surgery, originating in the nineteenth century, was conceived to deal exclusively with pediatric problems. The first professor of orthopedic surgery at Johns Hopkins Hospital, William J. Baer, was appointed to organize a crippled children's service. Baer was orthopedic consultant to the US Army Expeditionary Forces in France from 1917 to 1919, and returned to civilian life to join the generation of American surgeons destined to bring medical advances to the twentieth century to bear on problems of childhood. Baer had a vivid imagination and fearless disregard of criticism. His pioneer work, along with the efforts of his contemporaries and their second and third generation students, continues today. Their accomplishments have all but eliminated hematogenous osteomyelitis, poliomyelitis, tuberculosis, and crippling manifestations of congenital dislocation of the hip and other heritable deformities.

William Morant BAKER

1839–1896

William Morant Baker was the son of a prominent lawyer who died when his son was only 10 years old. Baker became interested in medicine very early and worked as an apprentice with his local doctor until he was able to enter St. Bartholomew's Medical College. After his graduation in 1861, he became an assistant to James Paget. His medical interests were very diverse, and he wrote papers on many subjects, including the first description of erysipeloid and other dermatologic conditions. He was known for his ability, ingenuity, and diagnostic acumen. It is interesting that, although his career was cut short by the onset of locomotor ataxia (neurosyphilis), he was characterized in a posthumous tribute as being "physically and morally an English gentleman."

The paper, "On the Formation of Synovial Cysts in the Leg in Connection with Disease of the Knee Joint," indelibly attached Baker's name to this condition.[1]

Reference

1. Baker WM (1877) On the formation of synovial cysts in the leg in connection with disease of the knee joint. St. Bartholomew's Hospital Report 13:245

Arthur Sidney Blundell BANKART

1879–1951

Arthur Sidney Blundell Bankart was born in 1879, son of James Bankart, FRCS, of Exeter. He was educated at Rugby School, at Trinity College, Cambridge, and at Guy's Hospital. Qualifying in 1906, he served first as house physician and then as house surgeon at his own hospital, and later became surgical registrar and tutor. He must have been attracted to surgery from the first because he lost no time in obtaining the academic qualifications, being admitted Fellow of the Royal College of Surgeons of England in 1909, and Master of Surgery of the University of Cambridge the following year. During this period he came under the influence of Arbuthnot Lane, who was then perfecting the "no touch" technique, and this stimulated his interest in bone and joint surgery to such effect that, in 1909, he became the first surgical registrar at the Royal National Orthopedic Hospital, which had that year been formed by amalgamation of the Royal Orthopedic Hospital in Hanover Square, the National Orthopedic Hospital in Great Portland Street, and the City Orthopedic Hospital in Hatton Garden. It was here that he first had freedom as an operating surgeon and developed the precise and amazingly fast technique that was the envy of his pupils. He was fond of telling how, when the surgeons went away for their summer holidays—and it seems they all went at once—he discharged all the old patients and brought in a full complement of new ones; these he operated upon without delay, working the operating theater staff as never before, and achieving a record turnover. He liked the actual business of operating more than any other aspect of his work, and right to the end of his career he thought the ideal way of spending a day was an 8-hour operating session.

In 1911, Bankart was appointed in quick succession surgeon to the Maida Vale Hospital for Nervous Diseases, assistant surgeon to the Royal National Orthopedic Hospital, surgeon to the Belgrave Hospital for Children and surgeon to the Queen's Hospital for Children. That was at a time before the modern surgical specialties had developed, and he was practicing simultaneously in orthopedic surgery, in neurosurgery and in the surgery of children. He must indeed have been a busy man and small wonder he learned to work so quickly and acquired the characteristic walk that was almost a run and was the despair of generations of house surgeons who could barely keep up with him. He always preferred to run up several flights of stairs rather than to wait a minute for the lift. The First World War found Bankart working harder than would be possible for most men; so he was not taken into the army, but instead he added a number of the smaller military hospitals to his burden; and, after Shepherd's Bush was opened, Robert Jones brought him into the fold to work there as well.

His appointment as surgeon to the Maida Vale Hospital for Nervous Diseases in 1911 marked the beginning of an interesting phase in his career. From 1911 to 1933, when he resigned from the staff, he carried out the major part of the surgery at that hospital. And after appointment as orthopedic surgeon to the Middlesex Hospital, he performed as well, at the behest of Dr. Campbell Thomson, neurologist to the hospital, much of the neurosurgical work there, and continued with it almost up to the beginning of the last war. He was perhaps more interested in spinal than cranial surgery. He was certainly very successful with spinal operations and was one of the first in this country to perform lateral cordotomy for the relief of pain. He was a great admirer of Charles Sherrington and took a close interest in experimental work in the nervous system. Indeed it was probably this that gave him the factual approach to the treatment of disease that he retained throughout his life.

The First World War was a period of rapid expansion for orthopedics and at its conclusion the London teaching hospitals, or most of them,

appointed orthopedic surgeons to their consulting staff. Bankart at that time was at the height of his ability and he was most disappointed not to be elected to the staff of Guy's, his own hospital, but in 1920 he was appointed to the Middlesex as its first orthopedic surgeon. He gave up some of his lesser commitments so that he could devote more time to the task of building his new department, but it was uphill work and many years were to pass before he made much progress. At first he had one outpatient clinic a week, but no beds except such as he could borrow from the less conservative of his colleagues. When finally he convinced them that orthopedics had passed out of the strap-and-buckle stage, he was rewarded with three male and three female beds in his own right, and a few cots in the children's ward. It was not until the new hospital was completed in 1935 that he had his own wards, and the organization of a unified fracture service was delayed until after the Second World War. When his assistant surgeon went into the army he ran the department, together with an additional 100 temporary beds at Mount Vernon Hospital, with little help except from student house surgeons, and although he reached the official retiring age in 1944, he gladly continued for a further 2 years.

Bankart made many contributions to orthopedics, the best known being his operation for recurrent dislocation of the shoulder. When he first described it in 1923, it did not attract much notice outside the circle of his immediate colleagues. He was not interested in publicity and showmanship, and scorned present-day morals, which allow a surgeon to take a new operation on tour complete with a "première" followed by a "general release." He believed that if an idea were good, it would soon enough be accepted by others. Indeed, that was the case here because a further paper on this operation that he published in 1938 was well received; and although surgeons as a whole were slow to adopt it, perhaps because it is technically a little difficult, it is now performed throughout the world. It is probably the only procedure for the treatment of recurrent dislocation of the shoulder that can be relied upon, and upwards of 100 different operations have been described.

In addition to his own contributions, Bankart had a great influence on British orthopedics as a whole because of the directness of his approach, which excluded careless thought and slipshod work. He was quick to debunk unsound or superficial argument, and the publication of a paper based on false premises was almost certain to invoke the quick response of a letter by his caustic pen in the weekly medical press. But Bankart was not opposed to new ideas; indeed, he welcomed them and was quick to try out any new operation that had a logical basis. He was equally prepared to investigate a procedure that gave good results although the reason was not apparent. His attitude to manipulative surgery is a good example. He was confronted in his daily practice by patients with a variety of complaints who failed to respond to the orthodox treatment of contemporary practice, and yet afterwards were quickly relieved by bone setters. He set out to investigate this phenomenon and became acquainted with Herbert Barker, who was famous as an unqualified manipulator, watched him work and saw his patients afterwards. As a result, Bankart was convinced that patients with certain ailments were helped by manipulation whereas he himself would not have benefited them (and on the other hand Barker was a wise enough man to learn something from Bankart of the dangers of indiscriminate manipulation). Bankart therefore began to perform manipulations himself, found out when it was indicated and added the technique to his therapeutic armamentarium. He reduced the claims of manipulators from " miracles" to plain facts, showed how simple the procedure was, made it respectable and put it on the orthopedic map. The culmination of this work was his book, *Manipulative Surgery*, published in 1932.

Bankart's position as a power in orthopedic surgery was recognized by his colleagues from the first, and as he matured he was granted the highest honors they could bestow. In 1913 he became the first honorary secretary of the newly formed sub-section of orthopedic surgery of the Royal Society of Medicine, and in 1935 he was elected president. He was a founder member of the Société Internationale de Chirurgie Orthopédique et de Traumatologie and an honorary member of the Société Française d'Orthopédie. He was a founder member of the British Orthopedic Association, honorary secretary from 1926 to 1931, and in 1932 and 1933 he had the distinction of serving as its president.

Bankart had few hobbies and his life centered around his surgery. In the evenings he was to be found as often as not in his study in his lovely home in Edwardes Square, surrounded by open books and with a part skeleton or a new instrument in his hand. Pondering his vast clinical experience and drawing on his great knowledge of

physiology, he elaborated the theories on which he based his daily practice. A man of strong convictions and supreme personal honesty, he could not be diverted from the course he believed to be true; and when he had decided that a certain procedure was the best, even when he had devised a new operation, it was practiced on the next occasion it was called for, were the patient a millionaire or a dustman.

Although a man of courtly bearing and great charm, he did not easily establish intimate personal relations with his colleagues. This often puzzled those who were attracted by his manner and the obvious frankness of his character, but failed to understand that he was a shy man. He was a connoisseur of life and appreciated the good things it holds, especially other people. He really did enjoy other people, and once his shyness was overcome contributed to the company in full measure. Bankart was a friend above price, never veering with the wind. Tolerant of error, intolerant of fools, a giant among men.

The sudden death of Bankart on April 8, 1951 deprived us of yet another of the giants of surgery who were the creators of modern orthopedics.

Joseph Seaton BARR

1901–1964

Vision and capability are the first requisites for leadership in all walks of life, but nowhere more than in medicine. Joseph Seaton Barr possessed these qualities of greatness. During the 35 years of his active professional career, orthopedic surgery had the greatest period of growth and development in its history; throughout this time Joseph Barr was among the leaders in the growth of his specialty. Few significant developments took place following World War II in which he did not play a part.

Joseph Barr was born on a farm near Wellsville, Ohio, on October 16, 1901. His college education was at the College of Wooster, in Ohio, from which he received a BS in 1922 and 30 years later, in 1952, an honorary degree of Doctor of Science. While a student at Wooster he was encouraged to study medicine by his Professor of Chemistry. He entered Harvard Medical School in 1922 and 4 years later received his MD degree, *magna cum laude*. After a surgical internship at the Peter Bent Brigham Hospital under the great Harvey Cushing, he decided to specialize in orthopedics. He served with distinction in the Children's Hospital–Massachusetts General Hospital orthopedic residency program. After completion of this training in 1929, he was asked by Dr. Frank R. Ober, then one of the two Professors of Orthopedic Surgery at Harvard, to become associated with him in private practice; this association continued until 1958. In 1947, after an active and distinguished career in the United States Navy during World War II, Dr. Barr was chosen to succeed Dr. Marius N. Smith-Petersen as the Chief of the Orthopedic Service at the Massachusetts General Hospital, having become a member of its staff in 1930. In 1948 he was made the John B. and Buckminster Brown Clinical Professor of Orthopedic Surgery at Harvard, which professorship he held until his resignation in October 1964 for reasons of health.

In reviewing the career of Dr. Barr, certain accomplishments stand out. Foremost, undoubtedly, was the demonstration by him and Dr. W. Jason Wixter of the role of rupture of the intervertebral disc, in sciatic pain. Their thorough and excellent study of this lesion and their classical report in 1934 changed the thinking of the medical profession concerning the etiology of low-back pain and sciatica. Before their ideas were accepted, such terms as *sacra-iliac strain* and *lumbosacral sprain* were in constant use; these terms are seldom heard today. Dr. Barr was the author or coauthor of 12 papers on the intervertebral disc syndrome and lectured on this subject in England, in Sweden, and at many international meetings. The thousands of low-back

sufferers all over the world who have been relieved by disc surgery should be forever thankful to Joseph Barr for the part he played in the demonstration of this syndrome and its treatment.

The next most significant contribution in his writings, which number over 80 publications, concerned poliomyelitis. He was the author or coauthor of 16 articles on this subject, including seven papers on muscle and tendon transplantation. In his work as a consultant to the Division of Handicapped Children's Services in the Vermont Poliomyelitis Clinics for over 30 years, he gained tremendous experience in the orthopedic care of this disease. His studies on the prediction of growth in the paralysed limb, the equalization of leg length, and epiphyseal growth are outstanding.

In his early career he was very active at the New England Peabody Home for Crippled Children in Newton, Massachusetts, and was later its surgeon-in-chief. He wrote articles on bone tuberculosis in the 1930s as a result of his activities at the Peabody Home.

At one time in his career, Dr. Barr was extremely interested in scoliosis. In 1936 he described a three-point brace for its treatment. He was also the director of a most worthwhile survey of the treatment of scoliosis in various clinics by a Research Committee of the American Orthopedic Association. In his later years he published three excellent articles on the results of arthroplasty of the hip using the Moore prosthesis. One of these papers was his Robert Jones Lecture at the Royal College of Surgeons of England in 1957.

One publication that undoubtedly gave him much satisfaction was his Presidential Address, in 1952, to the American Academy of Orthopedic Surgeons, titled, "The Surgical Experiment." Among the many thought-provoking statements in this address were the following:

> We need scarcely to be reminded that every surgical operation is an experiment in which many variable factors are present, most of them not under the control of the surgeon . . . We recognize that the outcome in an individual case is not accurately predictable and that chance plays a role in determining the result . . . We must use every means at our disposal to lessen the peril of the surgical experiment.

In this address he proposed a special committee for the study of surgical materials. In 1954 he organized and was chairman of a Joint Committee for the Study of Surgical Materials that was composed of representatives of the American College of Surgeons, American Medical Association, and the American Academy of Orthopedic Surgeons. All meetings of the Committee were attended by selected representatives of the manufacturers of surgical materials. This was the forerunner of the present American Surgical Materials Association, which is now beginning to take its place as an effective organization. Dr. Barr's initial efforts met many obstacles and frustrations, some unforeseen, but many created by shortsighted persons in responsible positions. What he did to focus attention on the need for the standardization and quality control of surgical materials represents one of his major accomplishments.

While serving in the navy during the first of the war years, he played a very active part in the development of the audiovisual division of the Bureau of Medicine and Surgery. He was responsible for many excellent medical teaching films made during the war. At the end of the war, he was Chief of Orthopedics at the Bethesda Naval Hospital and a close advisor to the Surgeon General of the Navy on all orthopedic problems. Dr. Barr was on active duty in the navy from December 1941 to March 1946, having been in the naval reserve since 1935. For many years after his discharge he was on the National Naval Medical Advisory Committee and attained the rank of rear admiral in the reserve. He had a great deal to do with the planning and setting up of the postwar orthopedic residency-training program in the navy. He wrote several articles on military medicine, including an excellent one on blast injury.

In 1960, while he was chief of the orthopedic service at the Massachusetts General Hospital, the realization of one of his greatest dreams came with the setting up of the Orthopedic Research Laboratories, which developed so effectively under the direction of Dr. Melvin J. Glimcher. These laboratories proved to be a model set-up of their kind and did a great deal to show all of medicine that orthopedic surgery was ready to make a substantial contribution to basic musculoskeletal research. Dr. Barr was one of the founders and original members of the Orthopedic Research and Education Foundation in 1955 and was its president from 1959 to 1961.

The members of the many boards and committees on which Dr. Barr served will long remember the significant role that he played in their

deliberations. He took an active part in the policy decisions and review of the services of the Shriners' Hospital when he succeeded Dr. Robert B. Osgood on their Medical Advisory Board in 1949. In 1955, he became a member of the Medical Advisory Board of the Alfred I. duPont Institute for Crippled Children and the Nemours Foundation of Wilmington, Delaware, again succeeding Dr. Osgood. His counsel and advice had a great deal to do with the development of the institute's present research and clinical programs. His long membership on the Board of *The Journal of Bone and Joint Surgery* was of tremendous assistance to the editor and associates. Following the war he was on the Orthopedic Committee of the National Research Council. While serving on this committee he was responsible for an excellent study of the treatment of carpal scaphoid fractures in the armed forces during the war.

Dr. Barr became a founder member of the American Academy of Orthopedic Surgeons in 1934 and was its president in 1951–1952; he became a member of the American Orthopedic Association in 1937. He was also a member of many other societies, including the Boston and New England Surgical Societies, the American Academy of Arts and Sciences, the American Medical Association, the American College of Surgeons, the American Board of Orthopedic Surgery and the International Society of Orthopedic Surgery and Traumatology. He was an honorary member of The British Orthopaedic Association. He was for many years the senior orthopedic consultant at both the Chelsea Naval Hospital at Chelsea, Massachusetts, and the Boston Veterans Hospital in Jamaica Plain, Massachusetts.

Joseph Barr was an investigator and teacher. He was a careful, meticulous surgeon and an excellent trainer and stimulator of the young mind. Thoroughness typified his every action. Clarity of expression in speaking and writing was one of his finest attributes. He possessed an unusual ability to analyze situations clearly and make wise decisions, for which ability he was greatly admired by all who knew him.

With the passing of Joseph Seaton Barr on December 6, 1964, at the age of 63, orthopedic surgery suffered a great loss. He will long be remembered by his host of friends, students, and associates; his many contributions to orthopedic surgery can never be forgotten.

John Rhea BARTON

1794–1871

John Rhea Barton, the son of Judge William Barton, was born in Lancaster, PA., in April, 1794. His grandmother was the sister of the well-known astronomer David Rittenhouse; an uncle was the early naturalist and antiquarian Benjamin Smith Barton. John Rhea Barton served his apprenticeship in medicine in the Pennsylvania Hospital, taking his medical degree in 1818. He worked under the celebrated Philadelphia physicians Philip Syng Physick (who treated bone nonunions by the seton), Dorsey and Hewson. In 1823, when he was 29 years of age, he was appointed to the surgical staff of the Pennsylvania Hospital. He showed unusual manual skill and ingenuity, which directed his endeavors toward the treatment of fractures. In operating, he was ambidextrous and rarely changed his position at the operating table. He is credited with devising the figure-of-eight bandage for the head and thus dispensing with the clumsy devices then in vogue in dealing with fractures of the lower jaw. He introduced bran dressings in the treatment of compound fractures, which, as his biographer Kelly states, actually were an excellent breeding place for myriads of bedbugs. His careful, precise observations led him to describe a rare type of subluxation of the carpus that was associated with a fracture of the articular rim of the radius, which to this day is known as a Barton's fracture of the wrist. In the absence of roentgenographic confirmation, it is astonishing that he could separate this entity out of the large group of Colles fractures

presenting themselves to him for treatment. His three most noteworthy surgical contributions to the literature are the paper described above, his *Longitudinal Section of the Lower Jaw for the Removal of a Tumour*, and his *New Treatment for Certain Cases of Anchylosis*, in which he presented the principle of a wedge osteotomy at the knee for the correction of a right-angle bony ankylosis of the knee. He wired a fractured patella as early as 1854, and, although his patient died of postoperative suppuration, Barton believed that he had established a new principle in the treatment of these injuries.

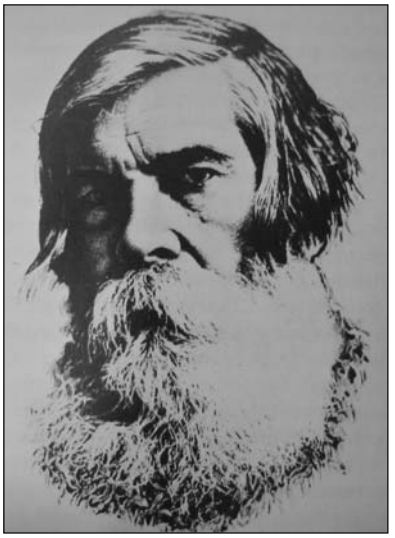
Barton, then 32 years of age, was a young attending surgeon on the staff of the Pennsylvania Hospital in Philadelphia. He had seen in the hospital a sailor named John Coyle who had fallen from the ship's hatchway into the hold a year previously and sustained some type of fracture of the hip. The hip was ankylosed in an adducted position with about 50° of flexion. Due to the lack of roentgenograms in those days, opinion varied as to the real nature of the primary injury sustained. Some surgeons considered it to be due to a dislocation; others, to a fracture. There was a history of prolonged inflammatory reaction in the hip following the injury, so that the patient had lain in bed for 5 months with his thigh drawn up to a right angle. Barton described his careful examination of the joint and ruled out dislocation because of the relative positions of the greater trochanter to the anterosuperior spine. He felt that there had been an extensive comminuted fracture with disorganization of the joint, followed by subsequent inflammation, and that later true bony ankylosis had taken place. The patient was placed in traction for several weeks to determine whether the ankylosis was fibrous or bony, but the joint failed to change its position. At about this time the patient fell under the care of other colleagues, and Barton did not see Coyle again until a year later, when, finding him still in the hospital, he began to think about an operation that would correct the patient's severe adduction–flexion–internal rotation deformity and also give him active motion of the joint. Essentially, he planned to perform a subtrochanteric osteotomy and, after the "irritation" had passed away, prevent the formation of bony union by gentle and daily movements of the limb.

Born of distinguished forebears and educated under the tutelage of great teachers of his day, his ingenuity and incentive were stimulated to place him in the forefront of that group of early American surgeons forming the vanguard of the new American School of Surgery. As Oliver Wendell Holmes said, "Genius comes in clusters, and shines rarely as a single star." Personally, he possessed an easy dignity of manner, a cheerful disposition and a heart full of human kindness. His quality of personal magnetism was noted particularly as he made rounds in the hospital; he spoke words of encouragement to each bed inmate and left sympathy and comfort in his wake.

His first wife died; later he remarried.

Although the *Dictionary of American Biography* states that he retired from active practice in 1840, his obituary in the *Lancaster Intelligencer* of 1871 states that in the steady pursuit of his profession for 30 years he acquired an ample fortune, which was increased largely by his marriage to the daughter of Mr. Jacob Ridgway. At any rate, it is difficult to unearth further biographical material of this distinguished man who, in the first 17 years of his practice, was responsible for several important landmarks in surgery. In his later years his practice was chiefly a consultative one; his advice was solicited by both physician and patient when difficult surgery was contemplated.

Upon his death in his 77th year, his wife bequeathed $50,000 to the University of Pennsylvania to endow a Chair of Surgery, the incumbent of the Chair to be designated as the John Rhea Barton Professor of Surgery.



Vladimir Mikhailovich BECHTEREW

1857–1927

Vladimir Mikhailovich Bechterew was born in 1857 in the province of Vyat', Russia, and died in Moscow in 1927. Three years after his graduation from the Military-Medical Academy, he received the title of "privat-docent," and by 1886 was elected to the psychiatry faculty at Kazan' University. In 1893 V.M. Bechterew was appointed to the faculty of nervous and mental illnesses of the V.M. Academy.

Over 500 scientific works were written by V.M. Bechterew, the most outstanding of which are: "Leading Routes of the Head and Spinal Cord"; "Basic Studies on the Functions of the Brain"; "Nervous Illnesses in Isolated Observations"; "Objective Psychology"; "The General Diagnosis of Illnesses of the Nervous System"; and "General Foundations of the Reflexology of Man."

There is no area of neurology with which V.M. Bechterew did not concern himself. In this are reflected the problems and achievements of neurology of his time. Having begun with a strictly morphologic approach, V.M. Bechterew investigated the field of psychoneurology. Having completed the well-composed study on the reflexology of man, the field of psychoneurology, he searched for a model of the human personality in its normal as well as its pathologic manifestations. Not long before his death, Bechterew reworked and republished his basic anatomic work, "Leading Routes of the Head and Spinal Cord," in which he emphasized anatomy as the base of his theoretic and clinical work, the beginning and the end of his long career in neurology. V.M. Bechterew was not exclusively a neuropathologist, a psychiatrist or a reflexologist. He was a psychoneurologist in the broadest sense of the word. He painted a clear picture of the many-sided, and at the same time integral human personality, and thus combined the features of a world scientist and outstanding public man. In 1892 he wrote the classic article on the disease that was later named "ankylosing spondylitis" or "Marie–Strümpell disease."[1]

Reference

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Edward Hallaran BENNETT

1837–1907

Edward Hallaran Bennett was born in Cork and was the son of a barrister. After progressing through the local schools, he attended Trinity College, Dublin, from which he received his medical degree in 1859. He became a Fellow of the Royal College of Surgeons of Ireland in 1863. Upon graduation he obtained an appointment in the anatomy department of Trinity College and

became its head five years later. It was during this period that his close association with Robert William Smith stimulated his interest in fractures and diseases of bone. After Smith's death in 1873, Bennett succeeded his old chief as Professor of Surgery at Trinity College. He had a successful surgical practice that included the treatment of many patients with diseases and injuries of the bones. He performed osteotomies of the femur for ricketic deformities using Lister's antiseptic technique, which he introduced into Dublin.

He was known as a great teacher and diagnostician and was active in the medical life of his community. Bennett's first comment on fractures of the base of the first metacarpal was contained in a report to the Dublin Pathological Society in 1882.[1] He published two additional papers on the subject.[2,3] At a meeting of the surgical section of the Royal Academy of Medicine in Ireland in May 1897, at which anatomic specimens, photographs and casts of hands, and roentgenograms were demonstrated, it was proposed by Sir William Stokes that the fracture–dislocation of the base of the first metacarpal described by Bennett should bear his eponym.[4]

There are three Irish surgeons whose names have been attached to fractures: Colles, Smith, and Bennett. Their lives spanned the nineteenth century and were curiously related; Smith performed the autopsy on Colles, and Bennett succeeded Smith as Professor of Surgery at Trinity College, Dublin. These three surgeons shared a common interest in anatomy and both Smith and Bennett used the vast anatomic resources of the Dublin medical schools to provide the specimens that they used in their teaching. As cadavers were dissected, bones showing evidence of old fractures or disease were set aside and stored. It was from the examination of such collections that Bennett described the fracture that bears his eponym.

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Marie Francois Xavier BICHAT

1771–1802

Marie Francois Xavier Bichat of Paris, a practicing surgeon, contributed far more in his career than has generally been recognized outside of France and its medical facilities. With his important book, *Traité des Membranes en Général et de Diverses Membranes en Particulier*, published in Paris by Richard, Caille and Ravier in 1800, he established the science of histology and tissue pathology in Western Europe. Not until half a century later was this supplemented by books on cellular pathology by Goodsir and Virchow. The chapter on the synovial membranes is a classic in the fundamentals of orthopedic surgery. It is a long chapter describing the anatomy of the synovial membrane in each joint.

Paracelsus had used the term synovia applied to the fluid, and later Clopton Havers described what he termed synovial glands, i.e. the fatty villi that he interpreted to be glands producing the fluid. Bichat rejected Havers' idea of glands, and recognized their function as fat pads separate from a specific synovial membrane. He believed synovia also covered the articulations and this belief was still somewhat in vogue as late as the 1930s. In this chapter, translated by J.B. Coffin, and published in Boston in 1813, Bichat employed the term exhale with an archaic meaning: "forcing through a membranous surface." This interpretation is still found in Webster's unabridged dictionary, and referred to as old medical terminology.

Edgar M. BICK

1902–1978

Edgar M. Bick spent his entire life in New York City. He was educated in the public schools and attended Columbia University, from which he received an AB, a master of arts, and a doctor in medicine, the latter in 1927. After an internship and a year of study in various clinics in Europe, he became an orthopedic resident at the Hospital for the Ruptured and Crippled, now the Hospital for Special Surgery. At the completion of his residency, he entered practice in New York City, where he worked primarily at the Mount Sinai Hospital. When the Mount Sinai School of Medicine was established in 1968, Bick was made an emeritus clinical professor of orthopedic surgery. His practice was interrupted by service in World War II. He was the orthopedic surgeon for the 3rd General Hospital as it moved through North Africa, through Italy, and into southern France. He became a regional orthopedic consultant in the European Theater of Operations.

Bick was a fellow of the New York Academy of Medicine, serving as chairman of its orthopedic section and as a member of its library committee. It was this association with the library that sparked his interest in the history of orthopedic surgery and led to the publication of the *Source Book of Orthopedic Surgery*, which became a standard reference on the subject.

Bick had a busy orthopedic practice. He had a great interest in the field of geriatrics and published several articles on the subject of diseases and injuries of the aged.

Henry Jacob BIGELOW

1818–1890

Henry Jacob Bigelow was born in Boston, where his father, a physician, was the Professor of Materia Medica at the Harvard Medical School. He was educated in private schools before entering Harvard University at the age of 15. As an undergraduate interested in chemistry, he took the lead in planning the laughing parties during which nitrous oxide or laughing gas was the main feature. After graduating in 1837, he began the study of medicine with his father as his preceptor. He also attended lectures at the Harvard Medical School and lectures by his friend Oliver Wendell Holmes at Dartmouth. A year later he was appointed to the position of house surgeon at the Massachusetts General Hospital. Two years later he was forced to break off his education because of symptoms of pulmonary tuberculosis. He travelled in Cuba for a time and then went directly to Europe to resume his medical studies. After a short stay in Europe, he returned to Boston and received his medical degree from Harvard in 1841. He returned to Europe for additional study and to set up his surgical practice.

In 1844 he received the Boyleston Prize for a small book entitled *Manual of Orthopedic Surgery*. This was the first book on the subject to be published in the United States. The following

year he published a description of his method of treating urethral strictures by the use of graduated bougies, the first of several significant contributions to urology. In an article published in November 1846, he described his experience with the use of ether anesthesia as an anesthesia for surgical procedures. His remark at the time of the first operation using ether anesthesia echoed around the world: "Gentlemen, this is no humbug!"

Among his many interests was an enduring fascination with the hip joint. This led, in 1869, to the publication of his book, *The Mechanism of Dislocation and Fracture of the Hip: With the Reduction of the Dislocations by the Flexion Method*. In this volume, he described the thickened portion of the anterior capsule, which has become known as the Y ligament of Bigelow.

Bigelow became Professor of Surgery at the Harvard Medical School in 1846 and held this position until 1882. During his long tenure he exercised the power of his position to dominate the surgical scene in Boston.

Walter Putnam BLOUNT

1900–1992

Walter P. Blount was born in Oak Park, IL. His father was a high school teacher in Chicago. It is not surprising that Blount studied medicine, because his grandfather was a surgeon during the Civil War and his mother was a practicing physician in Oak Park. Blount's mother was active in the American Medical Association and became President of the Women's National Medical Association. Blount's sister also studied medicine and practiced pediatrics in Chicago.

Blount graduated from the University of Wisconsin School of Medicine and in 1928 he went to London for postgraduate study. His experience gained from visits to European clinics stimulated his interest in the treatment of scoliosis, an area to which he made enormous contributions later in his career. On his return to the United States, Blount joined the established practice of Dr. Frederick Gaenslen of Milwaukee. Through his association with Dr. Gaenslen, Blount became acquainted with other distinguished orthopedists such as Elliott Brackett, Ned Ryerson, and Fremont Chandler, all of whom influenced his development as an orthopedic surgeon.

Blount became chief of the Milwaukee Children's Hospital, where he treated patients with bone and joint tuberculosis, poliomyelitis and scoliosis. The problem of leg length equalization in patients with poliomyelitis led him to introduce the use of staples, a much "simpler" operation than epiphysiodesis, to control growth on the uninvolved side. His work on scoliosis is worth mentioning. The Milwaukee brace developed by Blount became known throughout the world and still is used as the primary treatment for patients with scoliosis.

Blount became Professor of Orthopedic Surgery at the Marquette University School of Medicine when Gaenslen retired. He received international recognition for his work and from 1955 to 1956, Blount was President of the American Academy of Orthopedic Surgeons. Blount was a popular speaker at orthopedic meetings and one of his favorite lectures was on the treatment of fractures in children.

Blount believed strongly in nonoperative treatment and the benefits of subsequent skeletal growth and remodeling. Blount was one of the first to show the significance of old fractures as an indication of child abuse. The full exposition of his ideas can be found in his book,[1] which set the standard for the treatment of children's fractures for an entire generation of orthopedic surgeons.

Reference

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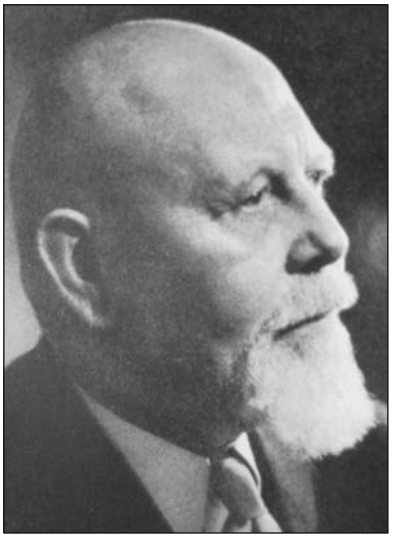


Lorenz BÖHLER

1885–1973

Lorenz Böhler was born and raised in the Vorarlberg region of Austria, travelling to Vienna in 1905 to begin studying medicine. He was granted his medical degree from the University of Vienna in 1911. In 1914 he came to the United States, where he spent several months visiting the Mayo Clinic. Böhler was very much impressed by the organizational structure of the clinic. There is no question that he later incorporated into his own hospital organization, concepts that he had seen in action in Rochester. During World War I, he served in several army hospitals and organized and directed a hospital that specialized in the treatment of fractures and joint injuries. He received many awards for his work as a military surgeon. After the war, he held several positions as the chief of surgery in provincial hospitals.

By 1925, Böhler had convinced a group of insurance companies dealing with patients receiving workman's compensation, that by organizing the care of workers with industrial injuries under his aegis, he could improve the results and reduce costs. This led to the formation of the Unfallkrankenhaus (Accident Hospital) in Vienna in 1925. Böhler served as director of this hospital from its founding until his retirement in 1963.

He oversaw every facet of the delivery of medical care in his hospital and organized the treatment of injured patients to the last detail. He kept meticulous and detailed records of every case and performed thorough follow-up examination of patients after they left the hospital. It was simple: if the patient did not keep his follow-up appointment, his workman's compensation was cut off. These data furnished the material on which he based his major books on the treatment of fractures, which were translated into all the major foreign languages. As a result, Böhler became the greatest authority on the treatment of fractures in the first half of the twentieth century.

Böhler allowed no deviations from his step-by-step procedures. He was open to new ideas and innovations, but tested them carefully before he adopted them. The greatest value of his work today lies in the well-documented long-term results of treatment in hundreds of cases and many varieties of fractures.

Harold Ray BOHLMAN

1893–1979

Harold Ray Bohlman was a native of Gauge County, Nebraska and a graduate of the 1923 class of Johns Hopkins Medical School, where he eventually became a clinical professor of surgery (orthopedics). He was one of the pioneer investigators of the use of metal implants and antibiotic therapy for the treatment of bone infections. In 1937, after Charles Venable and Walter Stuck introduced the use of Vitallium into orthopedic surgery, Bohlman designed a Vitallium replacement for the femoral head and inserted it in the hip joint of seven patients with nonhealing femoral neck fractures. Venable's and Stuck's experiments with Vitallium had been performed

in dogs in a shed on a ranch near San Antonio, Texas. Bohlman's preliminary experiments were performed on a farm in Maryland; he buried the prostheses in soil with control metal alloys to verify the claims of the noncorrosive properties of Vitallium.

Bohlman was also one of the early military and civilian pilots in the United States. On September 28, 1940 he flew to South Carolina and, with Austin Moore, performed the historic replacement of the proximal 12 inches of the upper end of the femur of a 53-year-old man that had been destroyed by a recurrent giant cell tumor. Eight years later, when the patient died of a heart attack, the implant, including the entire proximal femur and hemipelvis, was examined in detail at autopsy and microscopically to determine why the patient had walked so well without a support, using only a cane for long distances. There was no evidence of recurrence of the giant cell tumor, and the implant was described as "just as bright and shiny as the day it was inserted and at no point on it was there any evidence of corrosion." Bohlman's energy was inexhaustible, and his collaboration with Moore is an important landmark in the history of American orthopedic surgery.

David Marsh BOSWORTH

1897–1979

Born in New York City on January 23, 1897, the son of a minister, David Bosworth attended City College of New York and graduated from the University of Vermont (BA) *cum laude* in 1918. He was active on the swimming team and played the saxophone in a dance band during college. He was a Hospital Apprentice First Class in 1918 and later joined the army reserve, from which he was retired as Captain in 1935. He continued at the University of Vermont, graduating *cum laude* from the medical school in 1921. He was elected to Phi Beta Kappa.

Dr. Bosworth interned at Mary Fletcher Hospital in Burlington, Vermont, and returned to New York City in 1921 and 1922 for a residency at the Women's Hospital. After this he returned to Vermont, where for 3 years he was instructor of anatomy at the medical school. While there he met Dr. Mather Cleveland, who had been instructor of anatomy at Columbia. This meeting led to a firm, lasting association between the two men and was a factor in Dr. Bosworth's later move back to New York City and orthopedic surgery.

During the summer recesses of those years, he was a neurology resident at Central Neurological Hospital, Welfare Island, New York. He became a lecturer in anatomy at Columbia University in 1925 and finally discovered his calling in 1926, when he became an orthopedic resident at the New York Orthopedic Hospital under Dr. Russell Hibbs. After finishing in 1928, Dr. Bosworth made the New York area his home and orthopedics his life's work, to the benefit of both.

Dr. Bosworth joined the American Medical Association in 1921 and was chairman of its orthopedic section in 1949. A Fellow of the New York Academy of Medicine, he served as chairman of the orthopedic section in 1938. He was elected to head the orthopedic section of the Medical Society of the State of New York in 1943, and was a life member of the American College of Surgeons. In 1935 he became a member of the American Academy of Orthopedic Surgeons, and he actively participated in meetings and instructional courses.

He was elected to membership of the American Orthopedic Association in 1939 and served as president of that organization in 1957.

He was also active in the International Society of Orthopedic Surgery and Traumatology. Other honors conferred on him included membership of the Japanese Orthopedic Association, the Howmet Hall of Fame Award, a Citation of Merit from St. Luke's Hospital, and election to the Alpha Omega Alpha fraternity. Dr. Bosworth was the only foreign recipient of the Japanese award, the Second Order of the Sacred Treasure, which

was awarded to him in April 1968 for his contributions to orthopedic surgery. His achievements were not unnoticed by his Vermont alma mater, which awarded him an honorary degree (DSc) in 1963.

Because of his many publications, it was only natural that Dr. Bosworth be appointed to the editorial board of *The Journal of Bone and Joint Surgery*, and he served for a time as assistant to the editor. He was also appointed to the Board of Trustees of the *Journal* and served as treasurer for his entire term as trustee. He was Visiting Professor and Consultant to the Department of Orthopedic Surgery at the University of Vermont from 1942 until his death. He worked as Professor in Orthopedics at New York Polyclinic Medical School, at Flower Fifth Avenue Medical School, and as a lecturer in orthopedic surgery at Bellevue Medical College and the University of Vermont.

His staff appointments included: Assistant Surgeon, Attending Surgeon, and Director of Orthopedic Surgery at St. Luke's Hospital, New York Polyclinic Hospital, St. Vincent's Hospital, Seaview Hospital, the House of St. Giles the Cripple, and Richmond Borough Hospital, all of New York City. He was also consultant to 22 hospitals in New York and surrounding areas. Dr. Bosworth's many community service efforts included working as consultant surgeon of the New York City Police Department, beginning in 1945, and as impartial specialist to the New York State Supreme Court, Department of Labor, and the United States Department of Labor. He also served as an examiner for the American Board of Orthopedic Surgery from 1940 to 1966.

Typical of Dr. Bosworth, in order to cover more ground faster, he early obtained his own airplane and became an accomplished pilot, a practice that he discontinued only shortly before his death. In his earlier years, he would work all week in New York City, then fly to Vermont to teach and operate over the weekend, and return home to begin again early Monday morning. Residents and coworkers learned that his work schedule stopped only for sleep. Evenings and Sundays, after hospital rounds, were reserved for photography (he did his own) or writing. Always loath to waste any time when travelling between the many hospitals, he used to read journals or correct papers while in transit. Dr. Bosworth's hobbies included boating, flying, and photography. His skill with his Leica cameras was such that he did his own photography for all of his publications.

Perhaps best known for his work in the surgical treatment of bone and joint tuberculosis, Dr. Bosworth also contributed greatly to the knowledge of surgery of the hip and spine, and to virtually every subject in orthopedics.

With his wife, Dorothy, Dr. Bosworth always made his home a welcome place for his many residents away from home. He held annual New Year's Eve parties attended by his residents and many a Sunday night was spent in his basement, in a cloud of cigar smoke, with his staff, ironing out the problems of prospective publications. Many associates have enjoyed summer vacations on his beloved island in Lake Champlain. He was a man of many talents. Many of his residents can recall him quoting from memory during long operations in the late afternoon—lengthy passages from *Hamlet* or "Elegy in a Country Churchyard."

In March 1974, Dr. Bosworth left New York City to return to his birthplace, Vermont, where he was in active practice almost until his 82nd birthday.

Dr. David Marsh Bosworth died in Vermont on July 11, 1979, at the age of 82. His 94 original orthopedic publications alone (from 1930 to 1967) could fill a volume or two, and indicate the productivity of this man.

David Marsh Bosworth was affectionately known as "Uncle David" by all his ex-residents, although he was seldom called anything but Dr. Bosworth in his presence. His great surgical wisdom and experience have passed from him to all the corners of the world. When, as it must sometime happen to all of us, we encounter a difficult, unpredictable surgical situation, it seems the most natural thing in the world to ask, "What would Uncle David do here?"

Harold Hamlyn BOUCHER

1899–

Harold "Hammy" Boucher was born in Boucherville, Ontario, in 1899. He attended McGill University and the McGill Medical School, graduating in 1926. He was a resident at the University of Iowa where he was a student of Arthur Steindler, and where he received a Masters Degree in orthopedics. His orthopedic career was spent in Vancouver with the exception of several

years during World War II when he served as an orthopedic surgeon in the Canadian Armed Forces. He was a member of the faculty of the University of British Columbia. Boucher was a member and past president of the Canadian Orthopedic Association, the International Society of Orthopedic Surgery and Traumatology, and the American Academy of Orthopedic Surgeons.

Boucher had a great interest in sports, especially football. He coached Canadian football for several years and wrote several books for the use of trainers and coaches. He was an avid hunter who enjoyed training his own hunting dogs.

Boucher had a special interest in spinal surgery and was a pioneer in the use of internal fixation as a part of lumbosacral fusions.

Harold Buhalts BOYD

1904–1981

Harold Boyd was born in Chattanooga, Tennessee, in 1904, the only child of Seventh-day Adventist missionary parents. Farm work and carpentry added much to the strength, endurance, and manual dexterity that were later to enhance his surgical skills. After attending Emmanual Missionary College in Berrien Springs, Michigan, he entered the College of Medical Evangelists, now Loma Linda University.

A brief outline of his activities reflects his diverse interests and the high esteem of his peers:

—Medical degree—College of Medical Evangelists, Los Angeles, California, 1932; Alumnus of the Year, 1954

—Internship—Los Angeles County Hospital, 1932

—Surgical residency—Kern County Hospital, Bakersfield, California, 1932–1934; surgical staff, Battle Creek Sanatorium, summer 1934

—Orthopedic residency—Campbell Clinic, Memphis, Tennessee, 1934–1936

—Orthopedic practice—White Memorial Hospital, Los Angeles, California, 1936–1937; Campbell Clinic staff, 1938–1974, Chief of Staff, 1962–1970

—Academic appointments—Orthopedic Department, University of Tennessee School of Medicine, 1940–1977; Professor and Head of Department, 1958–1971

—American Board of Orthopedic Surgery—certified, 1938; Member of the Board, 1964; Vice President, 1968; Residency Review Committee, 1964–1967; Chairman, 1964

—The American Academy of Orthopedic Surgeons—membership, 1941; Secretary, 1947–1952; President, 1953

—Other orthopedic organizations—the American Orthopedic Association, American Society for Surgery of the Hand, Orthopedic Research Society, Western Orthopedic Society, International Society of Orthopedic Surgery and Traumatology; honorary member, British Orthopedic Association, South African Orthopedic Association, Latin American Society of Orthopedics and Traumatology, and orthopedic societies in Chile, Bolivia and Venezuela

—American College of Surgeons—President, Tennessee Chapter, 1965

—*The Journal of Bone and Joint Surgery*—Trustee, 1966–1972; Treasurer, 1968–1972

—Medical societies—President of Memphis and Shelby County Medical Society, 1957; Tennessee Physician of the Year, 1973

—Research—member of the Surgical Study Section, National Institutes of Health, 1957–1961; Orthopedic Research and Education Foundation, Trustee, 1964, President, 1966; Campbell Foundation, President, 1970–1974

—Military—orthopedic consultant to the army in Japan and Korea, 1951

—Extraordinary honor—the National Order of the Southern Cross, Brazil, 1953

Dr. Boyd had the main ingredients that are necessary to be a good physician and surgeon: intelligence, integrity, compassion, humility, and dedication, sprinkled with a dash of humor. He also possessed the quality of greatness: the ability to evaluate a problem logically, to separate the important from the less important issues, to review the alternatives, and to arrive at the most appropriate solution. This unique quality, coupled with his thoughtfulness and genuine interest in people, endeared him to his patients as well as his colleagues. All who knew him could appreciate the high quality of this man, especially the young, for he could always find the time to be with them and to let them know that he appreciated their efforts. "Be nice to the young as you climb the ladder; you may pass them again on the way down."

As a physician, he was superb. His vast knowledge of medicine and his ability to evaluate people objectively, as well as his willingness to listen and provide service and his extraordinary judgment were such that he developed a large national and international practice. Many patients from Central and South America sought his advice. He truly enjoyed the practice of medicine, and no problem was too small to attract his interest.

As a surgeon, he had no peer. He was truly a surgeon's surgeon. His even temperament allowed him to apply his great knowledge of anatomy and vast surgical experience, so that he was unhurried and always in control. He enjoyed teaching while he was operating or assisting a young surgeon, and emphasized atraumatic technique. He was a master in manipulation of fractures of the proximal end of the femur and especially in supracondylar fractures of the humerus in children.

Dr. Boyd always was interested in research and very cognizant of the need for both laboratory and clinical investigation. His own articles involved mainly congenital pseudarthrosis of the tibia, bone grafting for nonunion, femoral neck and trochanteric fractures, and dislocations of the shoulder. His original contributions were in the areas of dual-onlay bone grafts for nonunions, an anatomical approach for exposure of the radial head and neck and proximal end of the ulna, amputation of the foot with tibiocalcaneal fusion, and disarticulation of the hip. He always was interested in innovations and had the ability to identify clinical applications, such as compression plates for the fixation of forearm fractures, total hip replacements, and the electrical stimulation of bone for nonunion. He contributed more than 60 articles to the literature and participated in the six editions of *Campbell's Operative Orthopedics*. His interest in research continued throughout his retirement.

Harold Boyd was very proud of his contributions to the American Academy of Orthopedic Surgeons during its formative years. He had the pleasure of knowing intimately all of the presidents of the Academy up to the time of his death. During his tenure as secretary of the Academy (from 1947 to 1952), there was no full-time executive director; he always believed that one of his major contributions to the Academy was his part in convincing Dr. Charles Heck that he should leave an excellent orthopedic practice to become the full-time executive director of the Academy.

Photography was one of his few hobbies, and many have enjoyed his travelogue sound-slide programs. The first was a result of his camera hunt of wild game in Africa. Background music was provided by his close friend, Hugh Smith. This was the stimulus for the educational sound-slide program of the Academy.

Traveling was his true avocation. He and his wife, Jean, meticulously planned the trips, read much about the places they would visit, and usually knew more of the history of an area than did the local people. He always could find time to visit some medical institution or friend, and often did some lecturing on these trips. He was an unofficial orthopedic ambassador to Central and South America, as well as to Europe and the Far East. His trip to the People's Republic of China subsequently led to the first group of orthopedic surgeons sponsored by the American Orthopedic Association visiting the orthopedic centers of that country. To put at ease people who spoke English poorly, he informed them that their English was much better than his Japanese, Portuguese, or whatever their native language was.

Dr. Boyd enjoyed teaching—whether from the podium, in the operating or dressing room, or even over a meal—and for these sessions many medical students, residents, and practicing physicians are most indebted to him. He carefully prepared his lectures so that they were clear and concise, with faultless slides, and did not exceed the allotted time. As Chief of Staff of the Campbell Clinic and Professor and Head of the Department of Orthopedic Surgery at the University of Tennessee, he spent a considerable amount of time teaching, and was always able to combine

patient care in the outpatient department, surgery, or the emergency room with teaching. He was a highly sought-after guest lecturer and visiting professor.

During medical school he had to spend a year in bed because of pulmonary tuberculosis, and probably it was during this time that his lifelong reading habits developed. He enjoyed relating to others what he had just read and would loan or give articles or books to anyone he felt would benefit from or enjoy them. His interests included history, science, nature, and travel. One of his favorite books was *The Precepts and Counsels on Scientific Investigations* by Raymon Cajal, which is now available only through the National Library of Medicine.

An excellent conversationalist, Dr. Boyd liked to talk about his trips, his reading, and his orthopedic experiences. Often he apologized for talking too much, but his phenomenal memory and his knowledge of the Bible and of medical and nonmedical matters provided a vast amount of material from which to draw. Humor, combined with some significant point, was typical of his conversations: "You can't chew gum and look intelligent at the same time." "Don't do an unnecessary operation on the basis that if you don't, someone else will. Let the other person make the mistake." "Listen to the patient. He's trying to tell you what's wrong with him." "Some operations are better for the doctor than the patient." "In some instances, when there are two or more procedures available, one may not be better than the other; they may be equally bad." "Be careful of operating on patients who do not have pain, because if they subsequently do have pain, they will blame you." "Be careful of accepting praise from a patient who tells you how great you are and how bad all of the other doctors have been previously; you, too, will shortly join that list."

Dr. Harold Buhalts Boyd died at the age of 76 in retirement in Oceanside, California, on May 29, 1981.

Elliott Gray BRACKETT

1860–1942

Although Elliott Gray Brackett was not a founder of the American Orthopedic Association, he was one of the earliest to be admitted to membership, and he served the Association more years in various official capacities than anyone else. As one who, from the very beginning of his membership in the Association, had shown a very keen interest in its objectives and was instrumental in helping to achieve them, his activities on behalf of this body are a challenge to the present membership.

If the American Orthopedic Association means anything to its members and if it has figured at all in making the specialty respected in this country and abroad, it is due in no small measure to the group of pioneers who developed an especial interest in the understanding and treatment of chronic diseases in bones and joints, and of related conditions, that appeared to call for special training on the part of those who were to treat them. To this group Dr. Brackett attached himself in 1889, 2 years after the founding of the Association.

It was but natural that he should have chosen this line of work, for a personal experience with a crippling affection, which confined him to bed for a year while he was a student in Harvard Medical School, coupled with the fact that Dr. Edward H. Bradford took care of him through this illness, would have made a man of Dr. Brackett's sympathies turn to a specialty where he could be

of the greatest service. In making this decision, his judgment has been amply justified.

As an illustration of how obstacles only served to spur him to greater effort, the fact may be recalled that, with the help of a classmate, who brought his class work to him during that period, he completed his medical school course on time. Having finished that, in 1886 he received an internship at the Boston City Hospital, and, although he was on crutches, he did not miss a day of his service. These facts are noted because they have a bearing on the way he handled his patients and dealt with many difficult situations. He never gave up.

Four years after becoming a member of the Association, he was elected treasurer. He served the Association in this capacity for 13 years. In 1905 he held the office of president. He was on the Membership Committee for 8 years, was a member of the Executive Committee for at least 35 years, and Editor of The *Journal of Orthopaedic Surgery* for 20 years. In all, he gave important service to the Association for 43 years. Without doubt the most important was his tenure of the editorship, which covered the period from June 1921 through December 1942.

His sterling qualities were duly valued and respected, as has been abundantly evidenced by the confidence reposed in him by the Executive Committee, and through them by the entire membership of the Association.

The years immediately following the foundation of the Association, in 1887, were years filled with responsibility for it by the members. Their number was limited and their distribution throughout the country was not very wide. It was their task to raise the specialty to a respected position among the other specialties. At that time neither the profession nor the public looked with much favor upon specialization, and in certain quarters prejudice against it had to be overcome by tact, as well as by demonstrating the fact that many chronic osseous conditions, whether congenital, paralytic or static, were better handled by the orthopedically trained specialist than by the general surgeon.

As more and more men became interested in the problems of orthopedic surgeons, their distribution over the USA and Canada became more general; and, during the earlier years, the annual meetings of the Association were held in cities to which the specialty was a novelty and in which a pioneer in orthopedic surgery had recently located. This policy was advocated by Dr. Brackett in his Presidential Address in 1905.

Holding such scientific sessions in those localities had a great deal to do with dispelling antipathy to the specialty. At these meetings young men were brought in contact with the group who, in the early days of the organization, were most prominent in shaping its destiny. Conspicuous among them was Dr. Brackett.

His almost continuous membership, on one committee or another, resulted in a nearly perfect record of attendance at the annual sessions. For this reason he had opportunity to become widely known to the succession of new members.

In spite of all his committee cares, he was a not infrequent contributor to the scientific discussions, and the field covered by his published papers represents an interest in a wide variety of orthopedic subjects. His formal papers were always well considered and conservative; his discussions were pertinent, based as they were on a broad experience in hospital and private practice. His records were among the best the writer has ever seen. His influence was manifest in his wise counsel in committees and conferences.

Dr. Brackett was elected Editor of *The Journal of Orthopedic Surgery* in 1921. With the issue of the following January it again became a quarterly and the name was changed to *The Journal of Bone and Joint Surgery*.

When he took over the editorship, the *Journal* had not progressed very far beyond the transactions stage of its evolution. At that stage it was practically mandatory that all papers read at the scientific sessions of the Association be published. It often happened that under this rule, papers were published that were not worthy of a journal having a nationwide circulation, and the new editor recognized this. Early in his administration an advisory editorial staff was organized. This included representative men in different parts of the country who rendered a real service by stimulating interest in their respective communities, resulting not only in new subscribers and advertisers, but also in future contributors.

The next step was the appointment of a group of foreign editors who kept Dr. Brackett informed about the development of the specialty in their countries, from time to time sending in reports of meetings and papers by their colleagues. This added to the international character of the *Journal*, a matter that was always very much in Dr. Brackett's mind, for he believed that such a publication could be a real factor in the develop-

ment of better understanding and closer cooperation between nations. It was, therefore, a special satisfaction to him when contributions began to come from representative surgeons in different countries, many of them men he had met personally during his summers in Europe. From the correspondence with these foreign contributors developed acquaintances that led to real and lasting friendships, strengthened by the opportunity of seeing these men at work in their own hospitals. He planned his vacations so that he could be present at orthopedic congresses in France, Belgium, Italy, Germany, Czecho-Slovakia, and Switzerland. Perhaps one of the greatest pleasures that came from these contacts was his visit to Leningrad in the summer of 1936, when he had the opportunity of meeting Prof. Henry Turner, with whom a warm friendship had developed through years of correspondence, and of seeing the remarkable work for crippled children that had resulted from the labors of this pioneer, a man of British parentage who had devoted his life to the development of orthopedic surgery in Russia. On this trip Dr. Brackett visited hospitals in Leningrad and Moscow, and spent some time with the officials of the USSR Society for Cultural Relations with Foreign Countries, through whose interest many of the contacts of the *Journal* with Soviet publications had been made possible.

The number of papers offered for publication gradually increased, so that more and more work came to the editorial office; and two steps were taken to assist the editor, the election of a Program Committee, which exercised some supervision over the standard of the papers presented at the annual meetings, and the creation of a Board of Associate Editors. Since the appointment of the latter, all papers have been submitted to this body, and gradually the editor impressed upon them his ideals and standards for a journal.

The *Journal* was of vital concern to Dr. Brackett. No one not intimately associated with him has any idea how much time and thought he gave to it. To him it was not merely a rostrum from which an author might exploit his ideas. He must present something that was new, or at least, if not wholly new, it must be presented in a better form than ever before. He tried to impress upon the writers that brevity should be an accompaniment of clarity in expression, and that it was a mistake to rush into print before sufficient time had elapsed for a definite opinion to be formed as to the soundness of any position taken.

His intimate acquaintance with the membership of the Association for so many consecutive years made it possible for him to be of the greatest assistance to younger men sending in papers for publication. He spared no pains in his efforts to have the papers he thought worthy of publication brought up to the standard he had set. Without doubt it is in large part due to his insistence upon the observance of these rules that the *Journal* occupies the position it does today.

When Dr. Brackett became Editor, the total list of subscribers numbered 797. At the time of his death, the number of paid subscriptions was over 3,500. During the 20 years of his editorship, the budget of the *Journal* was increased eightfold.

The realization of some of his aspirations for the *Journal* has come through the broadening of the field of its usefulness, as shown by the fact that there has been a steady increase in the number of foreign, as well as domestic, subscribers. At the end of 1939 (the beginning of the war), the *Journal* was being mailed regularly to subscribers in 60 different countries outside the United States and Canada.

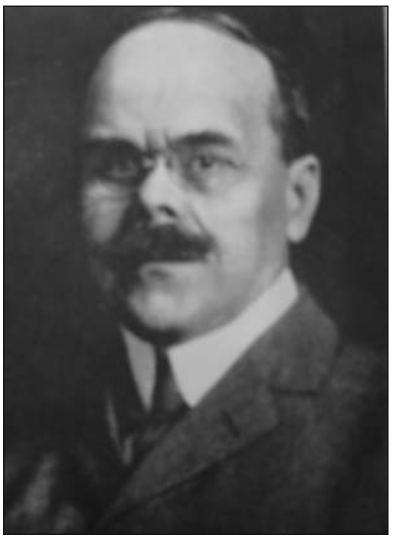
For the first 5 years that Dr. Brackett had charge of the *Journal*, he provided office space in his own house. He never received salary for his work, and at the time the Association made the first attempt to show their appreciation of his services on their behalf in the form of an honorarium, he persuaded the Executive Committee to put the sum into a fund to be used at the discretion of the Editor to defray the expense of illustrations in cases where it seemed right that it should be so employed. This sum was set up by the Association as the Elliott G. Brackett Endowment Fund. On the occasion of his 80th birthday, a second attempt was made by the Association to show their esteem, and a large number of letters were written to him, and a gift was made with the request that it be used by him personally.

In spite of all that he was giving to his practice and to the Association, he found time to serve his community in its hospitals and in promoting many movements to aid the physically handicapped. He was identified with various Boston hospitals, in his early years at the House of the Good Samaritan, later as orthopedic surgeon at the Children's Hospital. In 1911 he became chief of the orthopedic service at the Massachusetts General Hospital and continued in that position until 1918, when he resigned to go into war service. At the time of his death he was orthopedic surgeon at the Faulkner Hospital.

At the end of the Spanish–American War in July, 1898, he was sent to Cuba as representative of the Massachusetts Volunteer Aid Association. His assignment was to receive supplies sent on hospital ships and to determine the needs of the men. His first concern was for the sick among our troops ready to be evacuated to the United States and he made provision for their care on transports. Then, at the request of General Wood, he took charge of a hospital in Santiago and also organized work for the care of the sick in the city, where serious epidemics had developed.

Answering the call of his country in World War I, he was largely responsible for the training of the orthopedic personnel and for the determination of where they should be located after their preparation had been completed. He himself, eventually, was sent overseas, returning with the rank of Colonel.

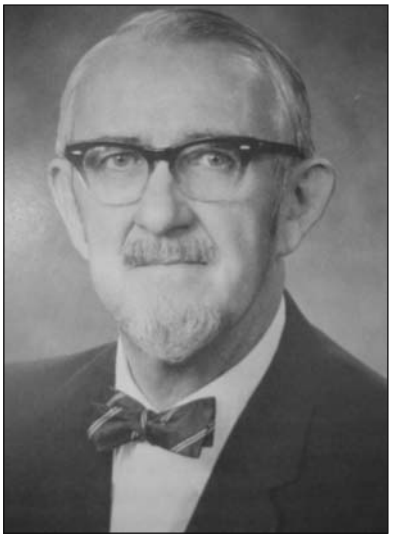
At the invitation of the China Medical Board of the Rockefeller Foundation, who learned that he contemplated a trip to China in 1922, he gave a series of lectures at the Peking Union Medical College and in one or two other medical centers.



Edward H. BRADFORD

1848–1926

Edward Bradford was one of the most vigorous of the "founding fathers," the third president of the American Orthopedic Association (1889) and Professor of Orthopedic Surgery at the Harvard Medical School (1903). He had a mind of unusual maturity and originality. His study of club feet published 60 years ago might well be used today in an orthopedic instructional course. Besides his great technical contributions, particularly to the treatment of tuberculous coxitis and of congenital hip disease, he introduced the "social point of view" into orthopedic surgery by helping found the Industrial School for Crippled and Deformed Children in Boston (1894), and established the principle of preventive medicine in orthopedic surgery by his campaign for correct shoes and adequate seating of school children. His amazing industry is attested by the publication between 1887 and 1902 of 105 original papers, a textbook, and numerous articles on orthopedic progress in the *Boston Medical and Surgical Journal*.



Louis W. BRECK

1909–1993

The son of a pioneer dentist, Louis Breck was born in El Paso, Texas, in 1909. He was educated in local schools and attended Northwestern University, from which he received his medical degree in 1933. After his orthopedic training at the Mayo Clinic, he began his practice in El Paso. During World War II, he served in the army as a medical officer, being discharged with the rank of Lieutenant Colonel. He returned to El Paso to continue his practice and remained active until his retirement in 1979.

To his patients and friends, Dr. Breck was a very special person. He had many innovative

ideas, among which was a McBee card system, enabling him to keep track of the conditions that he was treating and to obtain long-term follow-up studies on his patients. Dr. Breck was active in his local community and in national and international orthopedic societies. He was a member of the closely knit group of friends who were founders of the Association of Bone and Joint Surgeons, and he was actively involved in creating the journal of this organization, *Clinical Orthopedics.*

His early report of the results of the treatment of 47 patients with hip disease using a cementless system consisting of a Urist acetabular cup machined to fit precisely a hip prosthesis was important, because it demonstrated that the use of cement was not always necessary in total hip arthroplasty. The quality of his technique can be assessed by the fact that no case was complicated by infection.

He died in El Paso on 24 September 1993 and was barried in Evergreen Cemetery.

Walter Rowley BRISTOW

1882–1947

Walter Rowley Bristow was born at Bexley, Kent, on December 12, 1882. He received his early medical education at St. Thomas' Hospital Medical School, where among his contemporaries and close friends were Charles Max Page, Gathorne R. Girdlestone, and Godfrey Martin Huggins (later Prime Minister of Southern Rhodesia). During his undergraduate years, "Rowley"—as he became known to an ever-widening circle of friends in many different walks of life—was conspicuous for his athletic skill. He represented the hospital at lawn tennis, soccer, and water polo; and quickly became a scratch golfer. He was an early motorist, and being provided with an ample allowance by a generous father, was able to indulge his hobby in a series of sporting cars.

Unobtrusively, and with an apparent absence of effort, he passed all his examinations in due sequence and obtained the Conjoint Diploma of the Royal Colleges in 1907. One year later he graduated as MB BS in the University of London, and within 2 more years had successfully negotiated the formidable hurdles of the primary and final examinations for the FRCS (Eng). His first resident appointment at St. Thomas' was that of house surgeon to Sir George Makins; this was followed by a term as senior house surgeon on the emergency block. Bristow's practical acquaintance with many forms of athletics and sport excited interest in the treatment of injuries of the locomotor system and, more especially, in the neglected field of "sprains and strains." By the time of the outbreak of the First World War, he was well established in consulting practice in London. He had already entered into military commitments as medical officer to the Middlesex Yeomanry and served with this unit in Gallipoli, being mentioned in dispatches for his conduct at the Suvla Bay landing.

He returned to England in 1916 to convalesce from an attack of the prevailing dysentery and by a happy conspiracy of events came under the notice of Sir Robert Jones, who was then engaged in forming the staff of the Military Orthopedic Centre at Shepherd's Bush, London. Bristow's primary appointment was to organize and take charge of the electro-therapeutic department, but he was soon added to the surgical staff, and then joined the small band of younger orthopedic surgeons who were to become the devoted disciples of Robert Jones in the post-war years. At Shepherd's Bush, Bristow devoted much time and patience to the study of peripheral nerve injuries, and he made full use of the wealth of clinical and operative material that came his way. This led to his appointment on the Committee on Peripheral Nerve Injuries set up by the Medical Research Council. Ostensibly he was selected as an expert in after-treatment, for it brought him into contact with the minds of such men as Henry Head and Wilfred Trotter. Although Bristow was the first to disclaim any status as an academic, it became evident that his mental processes were as

acute as those of the intellectuals, and his keen intelligence pierced through a mass of facts to the essential principles of a problem. This faculty was to serve him well throughout his distinguished career and was to be one of his outstanding characteristics as a teacher and leader.

In 1919, St. Thomas' Hospital set up an orthopedic department. It was the end of an epoch and a breakaway from old tradition. Sir Robert Jones was invited to become Director of Orthopedics at the hospital, and Bristow was formally appointed to the staff as Orthopedic Surgeon. Sir Robert, then at the height of his powers and deeply immersed in his extensive practice and in public work, cast his mantle over the new department and left his younger colleague to build it up from small beginnings. This was Bristow's great chance. He had already learned many things from his association and growing friendship with Robert Jones. One thing above all he saw clearly—that the head of a surgical clinic must become a leader of younger men. In this ambition he achieved an outstanding success, as witnessed by the quality of the men he attracted in turn as his chief pupils—George Perkins, E. P. Brockman. R.J. Furlong; and by the influence he exerted on many more who came to sit at his feet for shorter spells. Secure in his base at St. Thomas', he next looked out beyond the horizon of the orthopedic department of a general hospital to discover a long-stay hospital, without which no orthopedic service was complete. At Pyrford in Surrey he found a cripples' home in ample grounds, well suited for the purpose. By adaptations and new buildings, St. Nicholas' Orthopedic Hospital was gradually transformed into an active country orthopedic hospital, at first limited to children, and later providing adult wards. In the Second World War, this hospital became an orthopedic center under the Emergency Medical Service, and it is to be known in future as the Rowley Bristow Orthopedic Hospital, a fitting tribute to the life and work of its first surgeon-in-chief.

During the years between the two wars, Bristow built up a large consulting practice. His patients came from far and wide, and among them were many men and women prominent in the public and social life of the nation. His practice was conducted in and from 102 Harley Street, a house that contained some beautiful examples of the work of Adam, most notably the ceiling in the front drawing room. Number 102 was the scene of bounteous hospitality, dispensed with taste and grace by "Rowley" and his devoted wife. George Perkins has given a vivid account of a typical day at 102.

> He (W.R.B.) breakfasted at eight and was in his office by eight-thirty. From then until seven-thirty in the evening, with a break for lunch, at which there was never less than one guest, he worked at top pressure, expending his own depthless energy and exhausting that of his secretaries. There followed champagne cocktail and a change for dinner. Dinner was an occasion. He had one of the best cooks in London, and could talk intelligently to any chef de cuisine on his subject.

Number 102, alas, is now a shell, blasted into ruins by the Luftwaffe.

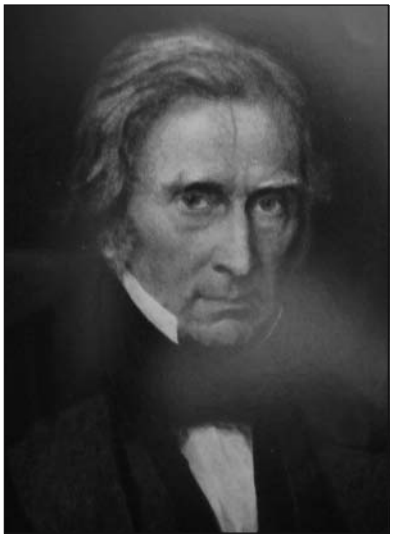
Bristow was an original member of the British Orthopedic Association and served on the Executive Committee for many years. He was president during the years 1936–1937 and infused the society with his dynamic leadership. A few weeks before his death he was accorded the rare distinction of emeritus membership. He was in due course elected as a corresponding or honorary member of many foreign surgical societies—among them the American Orthopedic Association and the French, German, Scandinavian, Australian, and Argentine Orthopedic Societies. In 1937, he delivered the Hugh Owen Thomas Memorial Lecture in Liverpool, and in 1946, the Robert Jones Memorial Lecture at the Royal College of Surgeons.

In the Second World War, after a period as a Regional Orthopedic Consultant, Bristow was appointed Consulting Orthopedic Surgeon to the army and attained the rank of Brigadier. This was his heart's desire—to recreate the orthopedic service in the army that Robert Jones had formed during 1914–1918. He was eager to don uniform again, and, in actual fact, his uniform from the First World War still fitted him. He gave most devoted and distinguished service to the army, organizing the orthopedic sections of the military hospitals in Great Britain, selecting the young surgeons to take charge of this work, and visiting hospitals in the Mediterranean and Middle East. During these strenuous years he also flew to the United States where his visit will long be remembered. In 1946, the French Government appointed him Chevalier of the Legion of Honour and awarded him a Croix de Guerre with palm.

During his busiest years, Bristow maintained a steady output of contributions to surgical literature. Two subjects held his interest throughout—

disabilities of the knee joint, and injuries of peripheral nerves. His Robert Jones Memorial Lecture on the latter topic was a masterly exposition of the subject. As a teacher of undergraduates he was without rival in his own hospital. In G.R. Girdlestone's words: "He taught well, penetrating to the heart of his subject and picking on the essentials with clarity and emphasis. His outpatient clinics at St. Thomas' were stimulating, memorable, and crowded. They were alive with humour and humanity, for he never failed to feel and show a friendly intimacy with the Lambeth folk." Simplicity was his theme. Generations of St. Thomas' students will still recall such aphorisms as "We treat patients, not disease." He was *par excellence* the "good doctor."

Rowley Bristow married in 1910, Florence, only daughter of James White, LLD, and they had one son and two daughters.



Sir Benjamin Collins BRODIE

1783–1862

Benjamin Collins Brodie increased our knowledge of diseases of joints by his prolonged studies of their clinical and pathological manifestations.

He was born in 1783, the fourth of six children of the Rector of Winterslow in Wiltshire, the Reverend Peter Bellinger Brodie, MA, who was educated at Charterhouse and Worcester College, Oxford, and of Sarah, daughter of Benjamin Collins, banker and printer of Milford near Salisbury. The Brodies derived from a clan of Morayshire; an Alexander Brodie of Brodie was Lord of Session in 1649 and his Jacobite descendant, also named Alexander, migrated to London in the earlier part of the eighteenth century. He married Margaret, daughter of another Stuart follower, Dr. Samuel Shaw the physician. Two of the grandchildren, Lord Denman and Sir Benjamin Brodie, rose to eminence in law and medicine, one became Lord Chief Justice and the other President of the Royal College of Surgeons.

The Reverend Peter Brodie was unable to send his children to public school and university; he undertook their education himself.[1] They certainly received a thorough grounding in the classics and mathematics, of which Benjamin gave ample proof later in life. Part of parental tutoring was the inculcation of industrious habits; the son who became surgeon of St. George's was noted at the hospital for his ceaseless industry. But it was not all work, there was play-acting, in which young Denman joined, and the pastimes of the countryside. In 1798, there was a diversion of more serious intent. In that year, Napoleon had an army at Boulogne watching out for a favorable moment for the invasion of Britain. There was considerable alarm in England, of which the still standing defensive Martello Towers of the south coast are a symbol. Brodie and his brothers raised a company of volunteers under a commission signed by George III whereby William was appointed Captain and "Our trusty and well-beloved Benjamin Collins Brodie, gent, Ensign in the company."

In 1801, at the age of 18 years, Brodie came to London to study medicine, not that he felt any strong attraction towards the healing art at that time; he had family connections with distinguished physicians like Dr. Matthew Baillie and Dr. Denman. He joined Abernethy's school of anatomy; here he met William Lawrence, afterwards surgeon to St. Bartholomew's Hospital, with whom he formed a lifelong friendship. The following year he attended the lectures of James Wilson at the Hunterian School of Anatomy in Great Windmill Street and worked hard at dissection. After spending nearly 2 years at these studies, he entered St. George's Hospital as a pupil of Everard Home in 1803. Early the following year his father died, leaving Mrs. Brodie in strained circumstances, dependent on a fixed income in days of high prices, war taxation and depreciation of paper currency; an economy strangely descriptive of England 150 years on. But with austere living, saving and some sacrifice

of capital she just managed to keep up supplies to her sons in mid-career.

In May 1805, Brodie became house surgeon, a post that he held for 6 months, when he resigned on appointment as lecturer in anatomy at the Windmill Street School. About the same time he accepted a proposal from Everard Home to become his assistant in private practice and in his researches on comparative anatomy at the Royal College of Surgeons. These appointments were of supreme importance to Brodie for, as he remarked, " These occupations afforded me the means of learning much as to my profession which cannot be learnt in a hospital; and further by initiating me in the study of anatomy and physiology generally, without limiting my views merely to that which is required for surgical practice they led me to scientific inquiries." At the College of Surgeons, he was fortunate in having the help and guidance of Clift, the Conservator of the Museum, who in his youth had lived in John Hunter's home and was trained by him. Clift had an intimate knowledge of every specimen and manuscript such as no one else had.

In 1808, Brodie was appointed assistant surgeon to St. George's Hospital, being attached to Everard Home; owing to the absence of Gunning, another surgeon, in the Peninsular War, Brodie and Robert Keate shared his duties. Brodie was at the hospital every day; he introduced clinical clerks on the surgical side who were taught the duty of accurate case recording: regular teaching was imparted in the wards and he delivered a course of clinical lectures on surgery, the first of their kind in a London hospital. The same year he joined James Wilson in lecturing on surgery at the Windmill Street School.

His researches at the Royal College of Surgeons and his association with Sir Everard Home and Clift brought him into intimate contact with Sir Joseph Banks, Sir Humphry Davy, Wollaston and other scientists. In 1810, he was elected a Fellow of the Royal Society and the same year delivered the Croonian Lecture "On the Influence of the Brain on the action of the Heart, and the Generation of Animal Heat." He also communicated a paper on "The effects produced by certain Vegetable Poisons." In 1811, he was awarded the Copley Medal of the Society for his physiological researches.

In 1816, he married a daughter of Serjeant Sellon who had been a barrister of a good deal of repute and the author of *Sellon's Practice*, a work much valued by the legal profession. They lived first at 22 Sackville Street, but 3 years later moved to a larger house in Savile Row. There were two sons and a daughter of the marriage; the elder son became a Fellow of the Royal Society and Wayneflete Professor of Chemistry at Oxford, after a notable career at Harrow and Balliol. The younger son became Vicar of East Meon.

In 1819, Brodie succeeded Lawrence as Professor of Comparative Anatomy and Physiology at the Royal College of Surgeons. He lectured on the functions of the organs of respiration, circulation and digestion, and on the nervous system. In practical surgery he was interested above everything else in diseases of joints, to which his attention was first directed when as house surgeon he dissected a specimen consisting of a pathological dislocation of the hip. He realized that when disease appeared in a joint, much confusion often prevailed as to its nature. The pathology of joint disease had been neglected; there was great need of investigation, particularly of the early stage of disease. With this in mind he wrote: "I availed myself of every opportunity which occurred of making such examinations. In particular I was anxious to do this when the morbid changes were still in an early stage, and where I had the opportunity of noting the symptoms by which the incipient disease was indicated, and the knowledge thus acquired became the basis of my future observations." From the time he became assistant surgeon he kept a record of almost every patient with articular disease under his care and dissected any joint with incipient disease in postmortem examinations of patients who had died from other causes. Brodie's researches on joint disease occupied the greater part of his professional life. In 1818, he published his great treatise on *Pathological and Surgical Observations on the Diseases of the Joints*; it went through five editions, the last in 1850.[5] With the appearance of this work, his advancement was rapid and it secured him an international reputation. It was the first serious attempt to separate the various conditions grouped together as "white swelling." He drew attention to the hysterical joint, then prevalent among young women of the more favored class, due to mistaken ideas of physical exercise and education. He had considerable success with spinal caries by his enforced and prolonged recumbency, preferably at the seaside. He was against any attempt at correction of the kyphos, for he believed that the collapsed vertebrae provided for a more certain ankylosis. He wrote:

Without such undue interference of the part of the surgeon, the carious surface of the vertebra above will always come in contact with that of the vertebra below; and it is to the union which takes place under these circumstances, at first by soft substance, and afterwards by bony matter, and to this alone, that we are to look for the patient's recovery. Whatever disturbs this process (and any attempt to straighten the spine cannot fail to do so) must therefore be carefully avoided.

He speaks of paraplegia as a complication of spinal caries but was able to report the good result of prolonged recumbency as follows:

Paralysis of the muscles below the seat the disease must always be regarded as an unfavourable symptom. Yet in many instances after being for some time in the recumbent posture, the power of the will over the muscles begins to be restored; and I have known children, in whom the muscles of the lower limbs had been completely useless, after the lapse of three or four years, to be able to walk and run and jump as well as if they had never laboured under any kind of disease.

In 1822, Brodie became surgeon to St. George's Hospital; for the next 18 years he was heavily engaged in his hospital and private practice; he lectured a great deal and continued with his physiological researches. In 1821, he attended King George IV when Sir Astley Cooper removed a sebaceous cyst. In 1828, when Sir Astley became Sergeant Surgeon, Brodie succeeded him as Surgeon to His Majesty. He was in daily attendance at Windsor during the King's last illness 2 years later. In 1832, he became Sergeant Surgeon to King William IV and afterwards to Queen Victoria. In 1834, he was made a baronet; the same year he was admitted a member of the Council of the Royal College of Surgeons and a member of the Court of Examiners. Three years later he delivered the Hunterian Oration; he was elected President of the Royal College of Surgeons in 1844. He resigned from the staff of St. George's Hospital in 1840, at the age of 57. His departure was made the occasion for the appreciation and gratitude of the profession, for his eminent services to surgery, by the presentation of the large "Brodie Medal" at a public dinner. On the obverse side is a bust of Sir Benjamin and on the reverse a female figure, emblematical of medicine, in a kneeling attitude, trimming the Hygeian lamp. Lady Brodie wrote to her son, saying, "The likeness is perfect, and I cannot find a fault with it." The original medal was presented to the Royal College of Surgeons by the present baronet in 1953; it was the work of Wyon of the Royal Mint.

After 32 years of strenuous effort at the hospital, he said that, after his resignation, he never passed St. George's without a sense of regret that his work there was over. To lessen this feeling, he delivered a short course of lectures to the students each winter session, "generally selecting for his subject some one class of disease, and giving a more detailed history of his own experience than was possible in an ordinary course of surgical lectures." Two diseases that have perpetuated his name, Brodie's abscess and Brodie's tumor, were the subjects of lectures delivered in these courses.[2]

Brodie's Abscess

The lecture on abscess of the tibia was delivered in the theater of St. George's Hospital on November 19, 1845. It is reported in the *London Medical Gazette* for 1845.[4] He said:

In the year 1824 I was consulted by a young man, 24 years of age, under the following circumstances: There was a considerable enlargement of the lower end of the tibia, but the ankle joint admitted of every motion and was apparently sound. The skin was thin, tense, and closely adherent to the periosteum. There was constant pain in the part, generally of a moderate character, but every now and then it became excruciating, keeping the patient awake at night and confining him to the house for many successive days. It made his life miserable and his nervous system irritable: one effect of which was that it spoiled his temper and thus produced another set of symptoms in addition to those which were the direct consequences of the local malady. The disease had been going on for twelve years. He had consulted a number of surgeons respecting it, and had used a vast variety of remedies, but had never derived benefit from anything that was done. Instead of getting better, he every year became so much worse. I tried some remedies without any advantage, and at last recommended that he should lose the limb. Mr Travers saw him with me and agreed in this opinion. Amputation was performed, and the amputated tibia is now on the table. You will see how much the lower end of it is enlarged, and that the surface of it presents marks of great vascularity. The bone in the preparation is divided longitudinally, and just above the articulating surface there is a cavity as large as a small chestnut. This cavity was filled with dark-coloured pus. The inner surface of it is smooth. The bone immediately surrounding it is harder than natural. The examination of the limb explained all the symptoms: there was an abscess of the tibia, stretching the bone in which it was formed, or

rather, if I may use the expression, trying to stretch it, and thus causing the violent pain which the patient suffered. On observing these appearances, I could not help saying, that if we had known the real state of the disease the limb might have been saved. A trephine would have made an opening in the tibia, and have let out the matter. It would have been merely applying the treatment here that we adopt in the case of abscess elsewhere. You open a painful abscess of the arm with a lancet: you cannot open an abscess of the bone with a lancet, but you may do so with a trephine.

About two years after the occurrence of this case I was consulted by another patient, 23 years of age, who had an enlargement of the upper end of the tibia extending to some distance below the knee. He suffered a great deal of pain, the part was very tender, and there were all the symptoms of chronic periostitis. I made an incision over the part, dividing everything down to the bone, and found the periosteum very much thickened. There was a new deposit of bone under the periosteum, softer than the bone of original formation. This operation, as in other cases of chronic periostitis, relieved the tension and the pain, and the patient was supposed to be cured. However, about a year afterwards, in August 1827, there was a recurrence of the pain; the enlargement of the tibia, which had in some degree subsided, returned, and it continued to increase. In the enlarged tibia there was one spot a little below the knee where there was exceeding tenderness on pressure. I need not describe the symptoms more particularly; it is sufficient to say that they bore a very close resemblance to those in the last case; the only difference being that, as the disease had been of shorter duration, the pain was less severe, and that the tibia was affected in the upper instead of the lower extremity. I concluded that there must be an abscess in the centre of the bone, and applied the trephine to the tender spot. I used the common trephine made for injuries of the head, which, having a projecting rim or shoulder, would only penetrate to a certain depth. However, it enabled me to remove a piece of bone of sufficient thickness to expose the cancellous structure. Then with a chisel I removed some more of the bone. Presently there was a flow of pus in such quantity as completely to fill the opening made by the trephine and the chisel. It seemed as if the bone had been to a certain extent kept on the stretch by the abscess and that, as soon as an opening was made into it, it contracted and forced up the matter. The patient was well from that time; the wound healing very favourably, and he has never had any return of the disease . . . When the tibia is enlarged from a deposit of bone externally—when there is excessive pain, such as may be supposed to depend on extreme tension, the pain being aggravated at intervals, and these symptoms continue and become aggravated, not yielding to medicines or other treatment that may be had recourse to—then you may reasonably suspect the existence of abscess in the centre of the bone. You are not to suppose, that there is no abscess because the pain is not constant; on the contrary, it very often comes only at intervals, and in one of the cases which I have related there was, as I then mentioned, an actual intermission of seven or eight months. After the disease has lasted a certain number of years, indeed, the pain never entirely subsides, but still it varies, and there are periods of abatement and of exacerbation.

He gave details of patients with similar signs successfully treated by bone trephining. He recommended the use of a small-sized trephine without rim or shoulder.

Brodie's Tumor

The lectures dealing with tumor of the breast are reported in the *Medical Times* for 1844.[3]

In the present lecture I shall make some observations on the diseases of the breast, no very clear description having been given of them, although of common occurrence. The disease to which I shall particularly refer today is one of considerable interest; especially so because it is quite different from carcinoma with which it has been frequently confounded. It is not met within hospital practice, but very often shows itself in private life, and unless I had not had the advantage of seeing a large number of private patients, I should not have been able to make out its symptoms and history, as I believe I now can . . . A lady consulted me who had one of these tumours in her breast, about the size of a walnut; I punctured it with a needle first and, finding it contained serum, I laid it open with a lancet; a large quantity of fluid escaped. I then dressed it with lint to the bottom, meaning to bring on inflammation: a good deal of suppuration followed, and the wound was two months before it healed, and then the disease was apparently quite eradicated. About a year after this the patient came to me again, and I found, where I had opened the cyst, a fungous tumour as large as the cyst I had previously opened. I recommended her to have the breast amputated; the operation was performed, and we found it to be entirely made up of cysts containing fluid matter, and one of a large size as represented in the drawing on the table. From the inner surface of this cyst there projected a solid tumour, which appeared to be made up of numerous folds giving it a plicated appearance, covered by membranes continuous with that lining the cyst; and when cut into, it looked like very slightly organized fibrine . . . The disease, as I have said before; is not cancerous; but still it should be removed; because if allowed to remain, the local irritation will destroy the life of the patient; and if removed, it will not return. If you operate at all, you must remove the whole of the breast, for it is no use taking away small portions. It is better to perform the operation whilst the tumour is small; nevertheless you

are not to be deterred by its magnitude, because it is not in this disease as in carcinoma; there is, in fact, no danger: and I have seen a great many cases where the operation has been performed and the disease has never returned . . . I have given no name to this affection because I think, it is an error of modern times to be continually giving new names to diseases, but if it must have a name, I think it should be called sero-cystic tumour.

Interest in Medical Education

Next to his interest in diseases of joints, Brodie gave a good deal of attention to maladies of the urinary system. In pre-antiseptic days, lithotomy was not without serious risks; to avoid them Civiale introduced lithotrity. Brodie was quick to appreciate the greater safety of this procedure and took a leading part in England in advocating lithotrity in place of lithotomy.

Relieved of hospital duties, Brodie was able to spend more of his time at Broome Park, an estate at Betchworth, Surrey, which he purchased in 1837. Furthermore, he gave more attention to medical education and reform, both of which had always interested him. In 1843 he played a prominent part in extending the constitution of the Royal College of Surgeons, whereby a new order of members under the title of Fellows, qualified by a higher standard of examination, was to be established. The object of this institution was "to insure the introduction into the profession of a certain number of young men who may be qualified to maintain its scientific character, and will be fully equal to its higher duties as hospital surgeons, teachers and improvers of physiological, pathological, and surgical science afterwards." A new charter enabling the College to carry out this reform was granted by the Crown in 1843. By this instrument all power of election was vested in the Fellows; retention of office for life by examiners and members of Council was abolished; the offices of president and vice-president were restricted to members of the Court of Examiners.

With the passing of the *Medical Act* in 1858 the General Medical Council of Medical Education and Registration became established. The Council was authorized to require from licensing bodies information as to courses of study and examinations and to visit and inspect examinations. A register was to be established of persons holding a diploma or license from a licensing body after examination. Brodie was chosen to be the first president of this Council. A few days later he reached the climax of his career when he was elected President of the Royal Society, a position he filled with dignity and distinction. It was particularly gratifying to him that his heir occupied the chair of the Chemical Society at the same time and that he had previously been awarded the Royal Medal of the Royal Society.

In his last years Brodie wrote a short work on metaphysics entitled *Psychological Inquiries.* It bears the influence of Berkeley and is cast in the form of a dialogue; it first appeared in 1854 and passed through four editions. He treats the question of the existence and creative energy of God as settled and teaches that mind and matter are different in their nature, so that mental phenomena cannot be regarded as the product of material forces. He attributes great importance to the imagination and its training by education; the possession of this great faculty distinguishes man from the lower creatures; men live in the world of the imagination as much and as truly as they do in the world of sense. All philosophies rest on certain assumptions and one such for Brodie was "the existence of one's own mind is the only thing of which one has any positive and actual knowledge." Regarding personal conduct, he dwells on the necessity for "another quality for which he can find no other English name than that of humility, though that does not exactly express the meaning, that quality which leads a man to look unto himself, to find out his own deficiencies and endeavour to correct them, to doubt his own observations until they are carefully verified."[6] This in effect is an echo of Pauline teaching, " For I say, through the grace given unto me, to every man that is among you, not to think of himself more highly than he ought to think."

Brodie's personal appearance was striking, though not perhaps handsome; his frame was slight and small but he had consuming energy. In private life he was known for his playful humor and fund of anecdote. As a lecturer "none who heard him can forget the graphic yet artless manner in which, sitting at his ease, he used to describe minutely what he himself had seen and done under circumstances of difficulty, and what under like circumstances he would again do or would avoid."[7] When Astley Cooper retired, Brodie became his natural successor as the leading surgeon in England, added to which he had more intimate contact with leaders of science and literature. He was a man of great erudition; a rare combination of surgeon, scientist and philosopher. He had a Hunterian attitude towards

surgery in that he regarded scientific research to be the handmaid of practice. In particular he clarified our knowledge of joint disease. He made a lasting contribution towards medical education whereby preliminary instruction in the arts and professional training were greatly improved. By his advocacy of reform of the Royal College of Surgeons, he helped to raise its status as a governing body and enhanced the quality of those whom it approved to practice surgery.

For the last few years of his life he suffered from double cataract, for the relief of which Sir William Bowman operated. In July 1862, he began to complain of pain in his right shoulder, caused by malignant disease; he died on October 21. Twenty-eight years before, he had fallen from a pony and dislocated this joint. Lady Brodie had passed away the previous year.

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Gurdon BUCK

1807–1877

Gurdon Buck was a New Yorker, born on Fulton Street. His father was a prominent merchant. After graduating from the Nelson Classical School, he entered the College of Physicians and Surgeons, from which he obtained his medical degree in 1830. After serving as an intern on the medical service of New York Hospital for 8 months, he went to Europe for further training. He studied in the continental clinics of Berlin, Paris, and Vienna for 2.5 years before returning to New York. Shortly after his return, he went again to Europe where his marriage to Henrietta E. Wolff was celebrated in Geneva. On his return to New York, he was appointed visiting surgeon to the New York Hospital.

Eight years later, he described osteotomy in a classic paper: "The knee-joint ankylosed at a right angle—restored nearly to a straight position after the excision of a wedge-shaped portion of bone, consisting of the patella, condyles, and articular surface of the tibia."[1] In 1848 he described Buck's fascia, a continuation of Colles fascia onto the penis.

Gurdon Buck, working at the New York Hospital, devised a simple traction system using either the elastic material or adhesive strips attached to a pulley apparatus. Because of its simple construction and easy application, the method won immediate worldwide acceptance. This was due in part to the fact that shortly after its presentation at the New York Academy of Medicine on March 20 and April 17, 1861 and its

publication in the Academy's *Transactions*, it was used extensively in the American Civil War. In military affairs, wars always are an invitation to observers from foreign services. The simplicity and effectiveness of Buck's traction very quickly entered into European and subsequently worldwide use. Today, over 100 years after its presentation, Buck's traction, whether attached to adhesive strips, moleskin, foam rubber strips or Steinmann nails, is still the most frequently employed apparatus to be found in civilian or armed service hospitals. Buck's title refers to fractures of the femur because he used it first in such cases. It was shortly used in fractures of other long bones, especially tibia and humerus. It must be noted that the conception of pulley traction was first presented by Guy de Chauliac of the University of Montpellier in the fourteenth century. The concept of sustained pulley traction was of course a great contribution to fracture management. However, Guy's splints and bandages were so cumbersome that there is little evidence in surgical literature of his system being used until Gurdon Buck devised his workable apparatus 400 years later.

Gurdon Buck was one of the most prolific and imaginative surgeons of the New York school of the mid-nineteenth century and his important contributions covered many fields. His other contributions, as important as they were in his time, have become stepping stones to further advance, but *Buck's Traction* remains very much part of contemporary orthopedics and traumatology. He also was known for his charitable activities. Two of his sons followed him into the medical profession.

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Sterling BUNNELL

1882–1957

Dr. Bunnell was born in San Francisco in 1882, the son of James Sterling Bunnell and Catherine Mapes Bunnell. The beginning of his scientific endeavors came early. At the age of 6 years, he was starting to probe into the mysteries of animal life and this intense interest led him deeper into the field of anatomy and the natural sciences as he grew into manhood. His accomplishments in this field alone were outstanding.

Entering the University of California, he obtained his academic degree in 1904 and his medical degree in 1908. For a time thereafter, he was associated with the University but later entered private practice in San Francisco, where he was to remain throughout his lifetime.

Early in his medical career he recognized the undeveloped state of extremity surgery and was soon deeply engaged in extremity surgical problems in the laboratory, where he carried out extensive experimental work on tendon and nerve sutures and grafts and on skeletal structures and joints. The basic facts thus learned were to be used later in restoring function to vast numbers of human crippled extremities.

During World War I, Dr. Bunnell served as a medical officer in the United States Army from May 1917 to March 1919, holding the rank of Captain. He was associated with Base Hospital No. 47, and saw action in France while a member of Operating Team 101. During this time, he developed a keen interest in aviation, and, on his return to San Francisco, he piloted his own plane,

using this means of transportation to travel to nearby cities for consultation or surgery up until 1926. He was at one time President of the National Aeronautical Society of the West, and in local circles he was frequently referred to as the "flying surgeon". As further evidence of his aviation interests, he published in 1930 a most interesting treatise entitled *Aeronautics of Bird Flight.*

During his military service, his professional contacts with the wounded further stimulated his interest in the reconstructive aspect of surgery, and many of the challenging problems at this time were to be solved later by his own efforts.

On his return home he engaged in a general surgical practice. He was adept in all surgical procedures, encompassing all of the surgical specialties as they exist today. As examples of his diverse interests and attainments he published on such topics as cleft-palate repair, arterial suture, a positive pressure apparatus to be used during thoracotomy, and a guide for the Smith–Petersen nail.

His first publication on the upper extremity came in 1918 and was entitled *Repair of Tendons in the Fingers and Description of Two New Instruments*. Following this and at intervals during his lifetime, he produced over 50 papers covering many aspects of reconstructive and plastic surgery. These original contributions encompassed such subjects as atraumatic technique, physiological reconstruction of the thumb after total loss, the pull-out suture, nerve grafts for repair of extremity nerves and the facial nerve, active splinting, intrinsic-muscle contracture of the hand, tendon transfers for the upper extremity, plastic aspects of reconstruction, surgery of the rheumatic hand, and many others.

In 1944, the first edition of the monumental book, *Surgery of the Hand*, was published. In this text, Dr. Bunnell carefully and exactly documented the principles of reconstructive surgery that are applicable to all parts of the body, although the main emphasis was directed toward the upper extremity and hand. Revised editions in 1948 and again in 1956 were in keeping with the rapid developments in hand surgery during World War II, in the immediate post-war years, and subsequently. He was eager to keep this publication up to date.

Surgery of the Hand rapidly achieved worldwide distribution and was translated for publication in the Spanish and German languages. The book is and will continue to be a contribution never to be forgotten in the annals of medical literature.

Shortly after the outbreak of World War II, Dr. Bunnell was called into service as civilian medical consultant by Dr. Norman T. Kirk, then Surgeon General of the United States Army. During his tour of duty, which was over a 3-year period, he organized and established nine hand centers in army general hospitals throughout the USA. His untiring efforts resulted in great advances in the handling of wartime hand injuries and their later reconstruction. He visited each hand center periodically, holding clinics, performing surgery, and training innumerable medical officers to carry on the work. For his outstanding service to the army he received the United States Medal for Merit.

Broad military contacts resulted in a development of great interest in the field of hand surgery, particularly among the younger men in the service, and culminated in the organization of the American Society for Surgery of the Hand in 1946. Dr. Bunnell served as the Society's first president. Up to the time of his death, he continued as its guiding force and as a source of inspiration to its members. In addition, he was instrumental in encouraging the formation of hand clubs or societies in Scandinavia, England, South America, and Japan.

After the war, and with some misgivings, he gave up his general surgical practice to devote his full time to reconstructive surgery.

To the casual observer, Dr. Bunnell appeared quiet, almost retiring in nature. To his closer acquaintances, however, he was dynamic and untiring. He was blessed with great physical stamina, which served him well, both in his prolonged hours of study and work and on the many rugged hunting, fishing, and collecting trips, which were his particular pleasure and source of relaxation. His modesty and lack of fear were among his dominant characteristics. He displayed great warmth of personality and to his immediate contemporaries he was affectionately known as "Bunny."

He was for many years a member and active participant in the Olympic Club and in the Bohemian Club of San Francisco. Professionally, Dr. Bunnell's life was characterized by complete devotion to the science of surgery. He was a master of comparative and human anatomy, subjects that to him were of living and vital interest. His surgery was clever, fast, and accurate. He was never thwarted by an unexpected condition or event, and he strove untiringly for perfection in his work. His judgment was unerring and his deci-

sions were promptly executed. His thinking was always along the lines of basic principles, the details to fall in line as a natural expression of his skill. He was never a defeatist; he was always hopeful, no matter how serious or complicated the case. His searching mind and the ready application of new ideas kept him from being mired in stereotype procedures, thus ensuring his rapid advance in his chosen field.

With his associates, Dr. Bunnell stressed the same sound principles of surgery he practiced himself and was critical if his student failed to rise to this standard. As a result, he has left us not only the fruits of his labors in the way of scientific accomplishment, but also the inspiration that he so dynamically displayed during his lifetime. Through his efforts, surgery of the hand has been nourished and developed to the state of worldwide recognition it enjoys today.

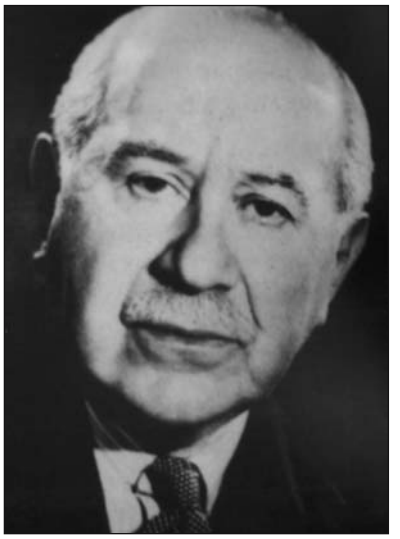
The acceptance of his scientific and surgical accomplishments came early, both in the United States and abroad, as evidenced by society memberships and awards. He was a licentiate of the American Boards of General, Plastic, and Orthopedic Surgery. He was an honorary member of the American Orthopedic Association, the American Academy of Orthopedic Surgeons, the Western Orthopedic Association, the California Society of Plastic Surgeons, the Societal Latino-Americana de Ortopedia y Traumatologia, an honorary fellow of the British Orthopedic Association, and a foreign corresponding member of the Societas Ortopedica Scandinavica. He was a member of the American Surgical Association, American Association of Plastic Surgeons, American Society of Plastic and Reconstructive Surgery, American Association for the Surgery of Trauma, American Society for Surgery of the Hand, and an emeritus member of the Hand Club of Great Britain. He was a Fellow of the American Occupational Therapy Association (1951–1953).

He was consultant to the Surgeon General of the United States Army, to the United States Navy, and to the Alaska Department of Health. He received the United States Medal for Merit, Ordre National de la Legion d'Honneur, and Ordem Nacional do Cruzeiro do Sul.

He was a member of the Sigma Nu medical fraternity and the Sigma Xi scientific society. In San Francisco, he was a staff member of the Stanford University Hospital, the St. Francis Memorial Hospital, and Children's Hospital.

Dr. Sterling Bunnell, world renowned surgeon, teacher, and author of *Surgery of the Hand* died at his home in San Francisco on August 20, 1957. His death ended an active life of scientific inquiry and accomplishment. He was survived by his wife, Elizabeth Bunnell, and a son, Sterling Bunnell, Jr.

The name of Sterling Bunnell is destined to be one of the great names in the profession for posterity.



Sir Stanford CADE

1895–1973

Stanford Cade was born in St. Petersburg, received his early schooling in Antwerp, and entered the Medical School of the University of Brussels in 1913. In 1914, he joined the Belgian Army, and at the fall of Antwerp, he was evacuated to England where he resumed his medical studies. He qualified at Westminster Hospital, where he was appointed to the surgical staff in 1924.

He was a broadly experienced general surgeon, but developed a special and overriding interest in the treatment of malignant diseases not only by surgery but also by radiotherapy and, in due course, chemotherapy. He was, thanks to the encouragement of Ernest Rock Carling, one of the pioneers of the use of radium, especially for oral cancer. His enormous experience in this field is encapsulated in his book *Malignant Disease and its Treatment by Radium*, first published in 1940 with a four-volume second edition in 1948, which remains a classic. He also wrote extensively on

breast cancer, melanoma, and tumors of the musculoskeletal system.

The approach discussed in his 1955 paper on the primary management of osteogenic sarcoma by irradiation formed a rational and humane basis of management that was widely followed until the concept was superseded by advances in cytotoxic therapy and limb conservation surgery. Cade's hospital career was interrupted by the Second World War in which he served in the medical branch of the Royal Air Force, making significant contributions to the safety of fighter pilots and reaching the rank of Air Vice Marshal. He was knighted in 1945. He retired from the active staff of Westminster Hospital in 1960 and was subsequently consulting surgeon, until his death in 1973.

George William CALLENDER

1830–1879

George William Callender was born at Clifton, Gloucestershire, on June 24, 1830. His father was a member of an old Scottish family, though his immediate ancestors had settled in Barbados. His early education was gained at "The Bishop's College," Bristol, and if it had been left to his choice he would have joined the navy; but many members of the family had entered the medical profession and in due course he studied medicine with his uncle, Dr. Lancaster of Clifton. At first he disliked his occupation but he persevered, especially after the death of his mother in 1848, when he felt it a duty to set a good example to younger brothers. The next year he entered St. Bartholomew's Hospital Medical School.

He was noted for neatness and accuracy, pleasing manners, and a well-dressed appearance. After gaining many honors and prizes, he was admitted as a member of the Royal College of Surgeons in 1852 and appointed house surgeon to St. Bartholomew's Hospital. In July 1854 he became registrar and demonstrator of morbid anatomy and thereafter never lost his interest in this subject. In the *Transactions of the Royal Society* of 1869 (p. 163) he published a paper entitled "The Formation and Growth of the Bones of the Human Face." This, with other scientific anatomical works, secured his election as a Fellow of the Royal Society in 1871. In the same year, on the resignation of Sir James Paget, he was elected Surgeon to St. Bartholomew's Hospital and Examiner in Surgery to the University of Cambridge. He practiced in Queen Anne Street and held the appointments of Surgeon to the Charterhouse and Professor of Anatomy at the College of Surgeons. He claimed that septicemia was almost unknown in his wards and, though he did not refer to Lister's theories of asepsis, the principle of his treatment was, in fact, a modified Listerism. His last publication, on "The Avoidance of Pain," was delivered to the Section on Surgery at the Bath meeting of the British Medical Association. Having gained a prominent place in the esteem of his colleagues, and being recognized as one who represented the highest merits of British surgery, he died at the age of 49 years, and was buried at Kensal Green Cemetery on October 29, 1879.

To Callender belongs the distinction of solving the problem of the fate of the premaxilla in man. Many anatomists had speculated on this subject. Galen, Vesalius, Sylvius (Dubois), Colombus, Falloppius, Riolan, Tyson, Nesbitt, Albinus, Daubenton, Vicq d'Azyr, Camper, Goethe, Soemmering and other nineteenth-century anatomists had made contradictory contributions to the literature. It was due to the careful investigations of Callender that the truth of the development of the maxilla emerged.

Jacques CALVÉ

1875–1954

In the years between the two world wars, when spectacular developments were taking place in orthopedic surgery in Great Britain, three continental surgeons formed close ties of friendship with their British contemporaries—Mürk Jansen, Vittori Putti, and Jacques Calvé. All three looked to Sir Robert Jones as their leader, and contributed to the *Birthday Volume* (1928). With the passing of Jacques Calvé, another of the few remaining links with the great master is severed.

Calvé will long be remembered as one of the most distinguished exponents of French orthopedics, and more especially for his illuminating contributions on the treatment of bone and joint tuberculosis. After resident hospital appointments in Paris, he became an assistant of the great pioneer Ménard, who for so many years directed the Maritime Hospital at Berck, and it fell to Calvé to present the principles and teaching of his master in modern perspective. This he did in a succession of articles and monographs. Many of these were written in collaboration with his colleague, Marcel Galland, whose mechanical ingenuity in the devising of instruments and operative techniques was in striking contrast with Calvé's essentially conservative approach to the long-term problems of tuberculosis disease of the spine and larger joints. After Ménard's retirement, Calvé organized a new hospital—La Fondation Franco-Américaine de Berck. As the name suggests, this was launched with funds collected by American residents in France. Madame Calvé herself was an American lady and the daughter of a regular officer in the United States Army.

Of Calvé's contributions to orthopedic knowledge, a few stand out in bold relief—his independent description of pseudo-coxalgia (to be known later as Legg–Calvé–Perthes disease); his article on vertebral osteochondritis in the Robert Jones *Birthday Volume*; his pioneer attempts to relieve tension in Pott's paraplegia by tapping the intraspinal abscess through an intervertebral foramen. In a letter to the writer of this memoir dated August 3, 1929, there can be found the following paragraph: "Je trouve que tons ces procédés de greffes extra-articulaires iléo-trochantériennes sont insuffisants et j'étudie maintenant, comme je vous l'ai dit, sin procédé qui me permettra de placer sin greffon inter-fémoro-sciatique. J'espère d'ici pen vous envoyer des documents intéressants à ce sujet."

Calvé was a man of gracious bearing, tolerant, kindly, and a delightful host. After the liberation of France, he went to live in the United States of America, but returned to Berck in 1953 in failing health, to die in his old hospital.

Willis Cohoon CAMPBELL

1880–1941

Willis Cohoon Campbell was born in Jackson, Mississippi, on December 18, 1880. His early education was received in his native state; his college and premedical training were taken at

Hampden-Sydney College, Roanoke College; and his medical work at the University of Virginia, where he was graduated in 1904. After 2 years of internship, he entered the practice of medicine in Memphis. He early became interested in orthopedic surgery, and, surmounting many hardships, he went to Europe to undertake the study of the specialty. He studied in London and Vienna, and had further postgraduate study in New York and Boston with the celebrated orthopedic surgeons in this country at that time. He returned to Memphis in 1909 and resumed his practice, specializing in orthopedic surgery.

In 1910 he was asked to organize a Department of Orthopedic Surgery at the University of Tennessee Medical School and he became the first professor of orthopedic surgery in this institution, which office he held with distinction until his death. His work in teaching was characterized by his desire to improve the teaching of orthopedic surgery and postgraduate training.

Dr. Campbell realized the need for properly organized and conducted institutions for the care of indigent cripples, and he was one of the first to establish a crippled children's hospital school in that part of the South. After the establishment of the Crippled Children's Hospital School, he devoted his energy to the formation of a similar type of institution to continue the work for crippled children after they had passed childhood. He cherished the hope that some day he would see the foundation of an institution for the care of adult orthopedic patients. With the cooperation of some of his close friends, this hope was realized in 1923 with the establishment of the Hospital for Crippled Adults.

In 1920 he built and opened the Willis C. Campbell Clinic, an institution for the care of his private patients and for the postgraduate training of men desiring to specialize in orthopedic surgery. The fellowships in orthopedic surgery, which he started in connection with the Willis C. Campbell Clinic in 1924, provided essentially the same training required by the American Board for the Certification of Specialists.

Dr. Campbell was an active member of all the societies in his specialty and many of the general surgical societies. Among the societies of which he was president are the following: Memphis and Shelby County Medical Society, 1921; Clinical Orthopedic Society, 1928; American Orthopedic Association, 1931; and Southeastern Surgical Congress, 1933. He was a member of the Board of Governors of the American College of Surgeons, 1936–1939, and of the House of Delegates of the American Medical Association, 1939–1940. His other professional affiliations included active and honorary membership in many American and foreign societies.

Dr. Campbell played an important role in the formation of the American Board of Orthopedic Surgery and devoted many hours of thought to the problems incident to it. He served as a member of the examining board and was president from 1937 to 1940. In conjunction with a number of his colleagues, Dr. Campbell envisioned the necessity for an organization in which younger men might receive recognition and identification that would guide their development. It was for this purpose that the American Academy of Orthopedic Surgeons was founded, and its existence is very largely due to Dr. Campbell, who was honored by being made its first president in 1933, and he lived to see the influence that this society, in conjunction with the American Orthopedic Association, has exerted in welding the present standards of the specialty.

His capacity for work was almost superhuman, and his interests were widely distributed. He contributed many articles to scientific programs and to various medical journals, also chapters on orthopedic surgery in many leading textbooks of surgery. In addition to this, he published three volumes: (1) a monograph, *Orthopedics of Childhood*, 1927; (2) a textbook, *Orthopedic Surgery*, 1930; and (3) his last publication, *Operative Orthopedics*, in 1939.

He was one of the pioneers in the development of arthroplasties. He had perhaps the greatest experience in his work on arthroplasty of the knee, and he contributed extensively by his experience with the massive onlay bone graft. Among his original contributions to the specialty, perhaps the best known is his bone-block operation for paralytic drop-foot. He was a great believer in the careful analysis of end results and some of his most outstanding contributions to the advancement and development of orthopedic surgery were contained in the published results of his vast experience.

To enumerate Dr. Campbell's scientific attainments would be to tell the story of only a small part of his full life. He extended kindly and loving guidance over all of the younger men with whom he came in contact; they were inspired by his honesty and integrity, by his unbounded zeal and enthusiasm, by the soundness of his judgment, and by the dominant will with which he overcame

obstacles. The words of one of his friends express his feeling for him: "To know him was to love him, for his magnetic charm, his sincerity, his strong sense of fairness, and his unfailing kindness and courtesy endeared him to all who came within his ken. Indeed, only a little with him, and one was convinced that here, indisputably, was greatness."

Willis Cohoon Campbell died on May 4, 1941, in Chicago. He was survived by his wife, the former Elizabeth Yerger, whom he married in 1908.

Dr. Campbell's work was his life and he gave his life to it.

Pieter CAMPER

1722–1789

Pieter Camper, Professor of Medicine in Amsterdam, published one of the remarkable books in orthopedic literature, *Desertation on the Best Form of Shoe*. It was translated immediately and repeatedly into several European languages and was considered worthy of reprint as late as 1861. He was one of the outstanding medical scientists of Europe in the eighteenth century and his apology for discussing so lowly a subject as shoes is amply discussed in his introduction. He incidentally was also one of the superior anatomical artists of his period and, like da Vinci, illustrated his own publications.

Norman Leslie CAPENER

1898–1975

Norman Leslie Capener was born on May 4, 1898, in Hornsey, North London, the third of a family of six boys. All were musical, and all went first to the Temple Choir School and then to the City of London School. For financial reasons, Norman had to leave when 14 to work in a City office for nearly 2 years before becoming an assistant master at a preparatory school. Having passed the examination of the College of Preceptors, he entered the Medical College of St. Bartholomew's Hospital. He joined the Inns of Court Officers' Training Corps, and in September 1917 was commissioned in the Royal Marines. Thence, being a medical student, he was transferred to the navy in the rank of Surgeon Sublieutenant, RNVR. On a change of policy away from the employment of medical students in ships, he was sent back to Bart's to complete his training. In 1921, while still a student, he married Miss Marion Clarke, the daughter of a captain in the Royal Navy. He qualified in 1922, proceeded FRCS in 1924, and, gaining the Luther Holden and Streetfield scholarships, served for several years as demonstrator of anatomy under Professor Le Gros Clark, for whom he had a lifelong regard. Capener then became a chief assistant on the Surgical Professorial Unit under Professor Gask and Mr. (later Sir) Thomas Dunhill. When Dr. Hugh Cabot took temporary charge of the Unit, he invited Capener to the University of Michigan, Ann Arbor, as Assistant Professor of Surgery, where he served from 1926 to 1931 and

was influenced by Dr. Fred Coller and Dr. Carl Badgeley.

In the meantime, the Devon Association for Cripples Aid had been established in 1925 under the aegis of Dame Georgina Buller, with the active collaboration of Sir Robert Jones, and the Princess Elizabeth Orthopaedic Hospital had been opened in Exeter in 1927. To this, in 1931, Capener was appointed orthopedic surgeon. He at once set about creating a comprehensive orthopedic scheme for the whole of Devon, with peripheral clinics staffed by after-care sisters and centered on the Orthopedic Hospital, which developed its own appliance workshop and a link with St. Loyes Training College for the Disabled. In spite of improved communications, the peripheral clinic system still benefits the scattered population of Devon.

From 1934 to 1963, Capener served as consultant to the Royal Devon and Exeter Hospital and to many other hospitals in the county. As chairman of the Dame Hannah Rogers Trust, he was instrumental in founding a residential school for spastic children at Ivybridge.

Capener was president of the orthopedic section of the Royal Society of Medicine in 1951, of the British Orthopaedic Association in 1958–1959 and of the orthopedic section of the British Medical Association in 1960. He was a vice president of the Anatomical Society of Great Britain in 1967 and of the British Association for the Advancement of Science in 1969.

In 1961, he was elected to the Council of the Royal College of Surgeons of England. Here he served on every important committee and rose to Senior Vice President in 1972. He took a particular interest in the library and scientific work of the College and also in its artistic treasures. At the College he was Hunterian Professor in 1941, Arris and Gale Lecturer in 1947, Robert Jones Lecturer in 1958, Thomas Vicary Lecturer in 1971 and Bradshaw Lecturer in 1972. He was also Robert Jones Lecturer of the Hospital for Joint Diseases, New York, in 1947.

He was consultant adviser in accident surgery to the Ministry of Health from 1964 to 1971, and became Chairman of the Medical Commission on Accident Prevention in 1967.

In 1974, just before his illness, he was awarded the Honorary Medal of the Royal College of Surgeons and the formal presentation was made to him in hospital.

It was natural that, as an anatomist interested in function, Capener should turn his attention not only to biomechanical subjects but particularly to the function and surgery of the hand and of the spine. He threw new light on the anatomy, physiology and pathology of the lumbo-sacral region, but his greatest contribution was to pioneer a direct approach to vertebral bodies by what he called lateral rhachotomy, the basis of the modern operative treatment of spinal infections that has saved innumerable patients from lasting paraplegia.

Capener was quick to recognize the orthopedic importance of engineering principles and practice. This found expression in his membership of the medical group of the Institution of Mechanical Engineers, and his chairmanship from 1956 to 1970 of the British Standards Institution Committee on Surgical Implants. From 1960 to 1972 he chaired the Committee on Apparatus for the Disabled under the auspices of the National Fund for Research into Crippling Diseases. His report on the selection, training and qualifications of limb fitters was in advance of its time. A fine administrator himself, he was wont to recall that the duty of an administrator was to minister.

In his adopted city of Exeter he made many contributions as an active member of learned societies. He took a great interest in the valuable collection of medical books at the Royal Devon and Exeter Hospital, arranging for the return of the more ancient ones to the care of the splendid Cathedral Library. He interested the late Mr. G.V. Northcott in setting up and endowing the Devon Medical Foundation in 1961; this made possible the establishment of a pioneer postgraduate medical center. On closure of the Theatre Royal, he was instrumental in securing, through the generosity of the same donor, the creation of the well-known Northcott Theatre in the grounds of the University of Exeter.

Blessed with a fine intellect and an imaginative mind, Capener was a man of unostentatious erudition and taste: in music, in literature and in the visual arts. He was fascinated by the meaning of words and horrified by their corruption or, as he would say in its correct sense, sophistication. His writing and his lecturing were clear and precise, and he was in much demand for both. He gave his literary talents and judgment to *The Journal of Bone and Joint Surgery*, serving on the editorial board from its beginning in 1948 until 1950 and again from 1964 to 1967. He acquired much skill in water-colour painting and in abstract sculpture, being much influenced by Dame Barbara Hepworth.

Capener often spoke of medicine's "generality." In the sense of catholicity, this was evident in his own person and reminiscent of the versatility of the learned in the seventeenth and eighteenth centuries. Over the portal of the old medical school at Bart's is inscribed "Whatsoever thy hand findeth to do, do it with thy might." A powerful and courageous personality, Capener was tireless and his ardour was infectious. He displayed the highest standards and expected these in his juniors. He took endless care in their training and the greatest possible interest in their careers. Thus he became one of the few surgeons who have not only created a clinical school but left behind a band of disciples. His outstanding qualities were honesty, steadfastness and goodwill towards his fellows.

His first wife, by whom he had one son and three daughters, was an invalid for many years before her death in 1970. Thereafter he married Miss Elsa Batstone, a former orthopedic aftercare sister, who gave him great happiness and tended him most lovingly and skillfully during his last illness. Throughout his life he was devoted to all his family and they to him.

Norman Leslie Capener, CBE, FRCS, died on March 30, 1975.

My first meeting with Norman Capener was in 1939 when I was a house surgeon at Oswestry, and I arrived at breakfast to find him sitting there, having driven up from Devon during the night in his Bentley—in which he used to commute regularly to London for orthopedic meetings.

When Capener became the first orthopedic surgeon to be appointed in Devon in 1931, the Princess Elizabeth Orthopaedic Hospital, Exeter, one of the pioneer units in this country, had been in existence for 4 years. It had only 48 beds for children and not more than twice that number of patients were admitted annually. The staff was small, and being single-handed with no house surgeon or radiographer, he had to be versatile.

Apart from his orthopedic activities, Norman Capener will rank as perhaps the most famous of Exeter's surgeons. His only rivals are John Sheldon (1752–1808), who was also a member of the Council of the Royal College of Surgeons, and John Haddy James (1788–1869), who did much to further the Hunterian tradition in Exeter and founded a short-lived medical school. Norman also pursued these two aims, for he was an enthusiastic teacher and was one of those concerned in the establishment of the University of Exeter in 1955. It was his ambition to see Exeter become a center for medical education. He was disappointed when his efforts to start a medical school were frustrated, but he was gratified to see the first postgraduate institute in the country without an undergraduate medical school inaugurated in 1962.

He exhibited a flair for the mechanical aspects of orthopedics and prosthetics. With the late Mr. F.M. Suter he set up a superb splint shop and devised the "lively" splints for physiological control, which he applied so effectively to the hand.

In spite of his great preoccupation with work, he found time to interest himself in medical history and art. In 1955, when president of the Devon and Exeter Medico-Chirurgical Society, he organized an exhibition of books, documents and pictures from the Exeter Medical Library and the Exeter Cathedral Library, which will never be forgotten. He was interested in amateur theatricals, and for many years staged the annual Christmas show, at which he was able to display his considerable musical talent. He was no mean artist and himself produced many of the illustrations in his numerous papers.

Barbara Hepworth instructed him in modern sculpture and those who visited Haldon Grange when the British Orthopedic Association met in Exeter in 1959 will remember his exhibits in the gardens. Later he held an exhibition of his work under the pseudonym of "Noel Caerne" at the Exeter Museum. Although most of his recreations were intellectual, for many years he was an active farmer, keenly interested in the ancient crafts he was most anxious to preserve.

In a brief summary, it is impossible to record all his activities in Exeter and Devon. He was a most remarkable man, one might almost say a phenomenon, and it has been a privilege and an unforgettable experience to have worked with him.

While Norman Capener was known internationally and tributes to his life and work will come from the whole world, it is perhaps not generally known that he had a particular interest in, and is owed a special debt by, Northern Ireland.

It may truly be said that he was an initiator of the development of orthopedic services in Northern Ireland, being perhaps the chief influence in the setting-up of the Council for Orthopedic Development and the Orthopedic Service in the 1940s. He subsequently visited the Province on

numerous occasions, always stimulating, encouraging and advising. His efforts for the development of a modern orthopedic hospital on the Musgrave Park site eventually culminated in the building of the Withers Orthopaedic Centre. His well-known work on tuberculosis of the spine greatly influenced the treatment of this condition, once so common in Northern Ireland. He encouraged, indeed arranged for, young surgeons to go to the Princess Elizabeth Orthopaedic Hospital for further specialist training and always took a most helpful and abiding interest in their careers.

Arthur CHANCE

1889–1980

Arthur Chance served Dr. Steevens' Hospital, Dublin, for 50 years from 1916 to 1966. He was a son of Sir Arthur Chance, a well-known Dublin surgeon, who was President of the Royal College of Surgeons in Ireland in his day.

Arthur Chance was educated at Clongowes Wood College and Trinity College, Dublin, qualifying in 1912. Within 3 years he had obtained his MD and MCh degrees and also his Fellowship of the Royal Colleges of both Ireland and England. He held a house appointment in Charing Cross Hospital but his surgical training was interrupted by the First World War, when he spent some 3 years mostly in a casualty clearing station on the Italian Front. He was appointed *in absentia* as surgeon to Dr. Steevens' Hospital in 1916.

In Italy, he met Heneage Ogilvie who became a lifelong friend. He was, thus, a founder member of the surgical travelers, a club formed by Sir Heneage Ogilvie shortly after the war, and as a member of the club he visited most of the leading surgical centers in Europe during the years between the two wars.

In his younger days he practiced as a general surgeon, but perhaps owing to his war experience he always took a special interest in traumatic and fracture surgery. He held the position of Professor of Surgery at the Royal College of Surgeons in Ireland and was a noted clinical teacher. Those who had the privilege of working with him will always remember the many truths he passed on to them, based always on sound common sense. In his later years he confined himself to orthopedic surgery. He was Vice President of the British Orthopaedic Association in 1954–1955. For many years he was Chairman of the Board of Governors of Dr. Steevens' Hospital.

He had many outside interests, chief of which were golf and racing. He was Honorary Surgeon to three of the leading racecourses in Ireland and took a personal interest in the treatment of any injured jockey who came under his care. He was always happy entertaining his friends in his lovely Georgian house in Merrion Square and was a charming host. Arthur Chance died on June 24, 1980, in his 91st year, after a long illness borne with much fortitude. He was survived by his wife, Harriett, who nursed him devotedly during his long years of incapacity and by his only child, Gillian.

Fremont A. CHANDLER

1893–1954

Fremont A. Chandler was born in Chicago on November 29, 1893, the son of Dr. Fremont E. and Mary S. Chandler. He attended elementary and high school in that city and, when it came time to decide about college, it was his father's wish that he enter the School of Agriculture at the University of Wisconsin. This he did. One of the outstanding things that Mont learned in this School of Agriculture was that, in the judging of stock, the pedigree of the animal should be studied and the animal should be observed in structural appearance, performance, and behavior. This he never forgot and, in teaching orthopedic surgery, he insisted that, before a diagnosis was made, the patient's family history should be carefully reviewed and the patient should be studied as an entity, with the examination never being limited to a local part, but always including the whole body. By his junior year in college, Mont had convinced his father that medicine was his chosen profession and so he transferred to this branch, receiving his BS in Medicine from the University of Wisconsin in 1916. The next year he spent coaching football and basketball in order to have sufficient funds to complete his medical course at Columbia University (College of Physicians and Surgeons), from which he was graduated in 1919. He served as resident at the Sloane Maternity Hospital in New York City and took his internship at the Hartford Hospital at Hartford, Connecticut, in 1919–1920.

It was at this point that he was uncertain of his specialty and so he accepted a position as Resident Surgeon in the Grenfell Hospital, St. Anthony, Newfoundland, 1920–1921. During that year he covered much of that rugged country, traveling by dog team in winter and by small boats in summer. There was a great amount of bone tuberculosis in northern Newfoundland and this had a great deal to do with his decision to turn from obstetrics, the specialty that he had considered, to orthopedic surgery. After his return to the United States, he took his orthopedic residency at the New York Orthopedic Dispensary and Hospital, 1921–1924. During the summer of 1921, he met a nurse's aide, Eleanor Cromwell of New York, who, on February 9, 1924, became his devoted wife. Two sons were born, Stuart and Stephen Cromwell Chandler.

In 1924, Mont began the practice of orthopedic surgery in Chicago. Throughout his years of practice in Chicago, he was on the staff of St. Luke's Hospital, where he became a senior attending orthopedic surgeon. In 1924, he was appointed an instructor on the Faculty of Northwestern University School of Medicine, and he was advanced through the succeeding 15 years to the rank of Associate Professor. In 1943, he resigned from Northwestern to go to the University of Illinois School of Medicine as Professor of Orthopedic Surgery and head of the department in the medical school and in the research and educational hospitals. He was on the staff of the Children's Memorial Hospital from 1925 to 1943, being the Chief of the Orthopedic Department from 1931 to 1943. In addition, he was a consultant at different times to six other Chicago hospitals.

Some of his other appointments and memberships were as follows:

Medical societies:

—The American Orthopedic Association (President in 1952)
—The American Academy of Orthopedic Surgeons (Treasurer, 1944–1949)
—International Society of Orthopedic, Surgery and Traumatology
—Chicago Orthopedic Society (Past President)
—The Clinical Orthopedic Society (President, 1940–1941)
—The Orthopedic Research Society (President-Elect, 1954)
—The Orthopedic Research Foundation (member of Joint Committee on Organization, 1954)

—American Medical Association (Secretary of the Section on Orthopedic Surgery, 1932–1935; Vice Chairman, 1935–1936; Chairman, 1936–1937)
—American Academy for Cerebral Palsy
—American College of Surgeons
—International College of Surgeons (Honorary Member and Vice President 1954)
—American Rheumatism Association (charter member)
—The Central Surgical Association
—Illinois State Medical Society
—Chicago Medical Society
—Society of Medical History of Chicago
—The Institute of Medicine of Chicago
—Advisory Board of Medical Specialties
—Alpha Omega Alpha Honorary Medical Fraternity
—Sigma Xi Honorary Fraternity
—Phi Beta Pi Medical Fraternity.

Editorships:
—Associate Editor of Lewis Walter's *Practice of Surgery*, 1941–1954
—Associate Editor of *Geriatrics*, 1953–1954
—Associate Editor of *The Journal of Bone and Joint Surgery*, 1948–1954.

Military appointments:
—United States Army Medical Corps, 1917–1918
—Civilian Consultant to the Surgeon-General of the Army, 1943
—United States Navy Reserve Medical Corps, 1928–1938 (Leutenant, senior grade).

The greatest honor of Mont's life came in 1950, when he was made President-Elect of the American Orthopedic Association. He served as the presiding officer for the American Orthopedic Association for the noted London meeting of the six English-speaking Orthopedic Associations of the world in 1952. This he did with great dignity and in a manner that made all of his fellow Americans justly proud of their President. He received from Queen Mother Elizabeth, the Jewel of Office, which the British Orthopaedic Association presented to the president of each English-speaking orthopedic association. At the banquet, along with the words of toastmaster, Sir Harry Platt, and the speeches of Sir Reginald Watson-Jones, Rt. Hon. Ian Macleod (the Minister of Health), the Marquess of Reading, and the Rt. Hon. Lord Justice Birkett, Dr. Chandler's toast, "Orthopedic Surgery," will long be remembered for its clarity, forcefulness, and appropriateness.

Mont's greatest contribution to Orthopedic surgery was undoubtedly the work he did in association with Dr. Henderson, Dr. Ryerson, Dr. Campbell, and others in the organization and setting up of the American Board of Orthopedic Surgery. The establishment of our Board in 1934 represented, undoubtedly, one of the great milestones in our history, and he had a major part in it. He was the first secretary of the Board and remained in this office until 1941 when he became President. During his many years of service on the Board, he continually fought for better orthopedic education and for the raising of the standards of orthopedic training. He fully realized that Board certification sometimes was given undue importance and that performance, character, and the qualities of leadership were far more important to an orthopedic surgeon than a Board certificate. In the words of the present Board secretary, "He made the Board what it was." For this contribution, all of orthopedic surgery should be forever grateful.

Mont was an individual who had the respect of all. He was a fighter for truth, justice, and right. In discussions, his words were few, well chosen, and always meaningful. He was unable to be superficial in words and actions. He was admired by those who knew him for his sincerity, conscientiousness, frankness, and integrity. He was one whom some have called a decisive personality; his opinions were definite, but never unalterable if he were convinced that he was not in right. He was noted for his promptness. His personality was stimulating to residents, associates and friends; he had the knack of having his younger assistants do the things they should do without being asked. He was satisfied only with perfection in everything he did, and he demanded the same of those who worked for him. He could not tolerate an inferior quality of work or second best from an assistant. He was never boastful of what he did. He had a tremendous capacity for work and expected his assistants to maintain the pace he set. He was always willing to do more if it was related to his beloved orthopedics.

Under a sometimes stern-appearing exterior, Mont was extremely kind and warm-hearted, with a good sense of humor. He was mindful of the thoughts and feelings of others. He took misfortune when it came without complaint, always in a quiet and dignified manner. He had what has

been described as fundamental dignity, extreme graciousness, and gentlemanliness.

Mont was a good administrator and loved to teach. It has been said that he was a born teacher and was always teaching. He was keenly interested in all medical research. He had a definitely creative mind and always wanted time to do more research of his own. He became particularly interested, in the last few years of his life, in undergraduate teaching and especially in the development of simple teaching aids. He was responsible for the publication of *The Manual of Orthopedic Surgery*, which was prepared under his direction and sponsored by the American Orthopedic Association in cooperation with the Undergraduate Teaching Committee of the American Academy of Orthopedic Surgeons. It was originally financed by the John R. Thompson Fund, which was established by one of his patients. *The Manual* is now used by nearly every orthopedic teaching service in the United States and is to be translated into other languages. He loved the training of his residents. He was never too busy to stop and show a new resident something he thought he should know. In his teaching of younger men, a favorite expression was, "Anybody can do the major things in medicine, but it takes a good doctor to do the last 5 percent of the details." How true this statement is!

As an orthopedic operator, he was superb and had few peers at the operating table. There was no lost motion; he was deliberate, fast, resourceful, accomplished, and skillful with his instruments, especially with a curette. He loved mechanical things that were efficient and he had the ingenuity to invent and to perfect many instruments of his own creation. He was particularly good in all spine work, especially in fusing a low back and in approaching an intervertebral disc. His hip fusions and foot stabilizations were outstanding. His operative judgment was always considered excellent, but with a difficult case he would invariably weigh the opinions of his associates before coming to a decision.

His writings through his 30 years of practice were many and always good. What he said and wrote was thoroughly prepared and substantiated by facts and sound experience. Twenty-six of his more than 70 publications were on problems of the crippled child, with seven of those relating to cerebral palsy. He was devoted to children and especially to his work with the child with cerebral palsy. His patellar advancement operation in the flexed knee of the spastic child is well known. Nine of his publications were on problems of the low back. Some of these are classic. He will long be remembered for his operation of trisacral fusion for low-back pain, the description of which in 1929 was his first paper. His work on spondylolisthesis was among his best. He had three particularly good papers on torticollis, for which work he was widely known. His 1951 Academy exhibit, with two associates, on "The Recording Oscillometer in Orthopedic Surgery" followed by a publication, was one of his very satisfactory contributions; for this he was given an Academy Gold Medal Award. His chapters in Brenneman's *Practice of Paediatrics*, and *Christopher's Surgery* were among his best writings.

Mont's hobbies were few. His first interest was his work, and this can be easily believed by those who knew him well, for he was dedicated to orthopedics and research. Some say he did not "get fun out of life" as he should: his fun was found in his family and his work. Nothing took precedence over orthopedics; but when he played, he played hard. He loved and knew photography and took beautiful pictures. He liked to work in a shop—he had a small one in his home. His vacations were usually spent in travel or on a ranch in Montana with horseback riding, fishing, and rifle target practice. He liked to browse in hardware stores, where he got ideas for instruments. He often gave his residents good English pocket knives and special saws for cutting casts. He helped to develop an oscillating electric saw in the early 1930s, but he did not have it put in production, because he felt it was never mechanically right and was too complicated for general use. This was the forerunner of our present motor saws.

Throughout his professional career, no one gave him greater and finer support than his devoted wife. He looked up to her, always admired her, and greatly relied upon her judgment in many matters other than home and family. She was his constant companion, working with him on problems with which she could be of assistance, helping him in the preparation of many papers, and comforting him in times of undue stress and strain.

He closed his Presidential Address to the American Orthopedic Association by saying,

> As I leave the office in which I have felt it such an honor to serve, my most sincere wish for all of you is

that you may be receptive of the tribute paid to doctors by Jeshua, the son of Sirach, early in the second century before Christ. He writes: ". . . The skill of the physician exalts him, And he is admired among the great."

The active and productive life of Fremont A. Chandler came to an end suddenly and without warning on Christmas Eve 1954. Truly, Fremont A. Chandler is a worthy example of Jeshua's saying. He was "admired among the great" of his day, and long will he be remembered in the days to come for the sound and lasting contributions he made to his beloved orthopedic surgery; and with the passage of time, his name will grow.

Jean-Martin CHARCOT

1825–1893

Jean-Martin Charcot was born in Paris where his father was a carriage builder. He was educated in Paris and, after deciding to become a doctor, entered medical school at the age of 19. At that time, Paris was the world center of medical thought and activity: Charcot was exposed to some of the best teachers available.

As he progressed through his training, he continued to develop his skills at drawing. His doctoral thesis, illustrated by his own drawings, dealt with the differential diagnosis of gout and other forms of acute rheumatism.

Moving up the academic ladder, Charcot, in 1862, was appointed chief physician of l'Hospice de la Salpêtrière, an ancient hospital that contained 5,000 chronically ill patients of all types. It was from this voluminous material that he described various conditions that established his reputation as a founder of the specialty of neurology.

Perhaps his greatest contribution was the recognition that "locomotor ataxia," a frequent cause of disability, was caused by *tabes dorsalis*, a form of neurosyphilis. Charcot was a great teacher, whose clinics became world famous. His relationship with Duchenne was very productive and his students, Jules Dejerine, Pierre Marie, and Babinski, carried on his great tradition.

John CHARNLEY

1911–1982

John Charnley was born in Bury on August 29, 1911. He was educated at Bury Grammar School and Manchester University, where he was awarded several prizes and scholarships. He made his ambition for a surgical career plain by passing the primary examination of the Royal College of Surgeons while he was an undergraduate—a feat that was possible for the gifted students of those days—and he became a Fellow of the college in 1936, 1 year after graduating in medicine.

Before the outbreak of the Second World War he held surgical appointments at Manchester Royal Infirmary and Salford Royal Hospital. It was evident then to his mentors and contemporaries that he was destined for a brilliant career. During his period of army service, spent in the Middle East, he used every opportunity to work in the REME workshops where he produced an adjustable Thomas' splint, which was widely used in the treatment of casualties from the North African campaigns. This engineering experience

was later put to good use in his biomechanical laboratory.

After the war, Charnley returned to Manchester; he was appointed lecturer in orthopedic surgery and started a long and fruitful association with Sir Harry Platt. They had much in common, a directness of vision and purpose and a dislike of humbug. Sir Harry was one of John's staunchest supporters and was instrumental in persuading the Regional Hospital Board to back his revolutionary concept of a Centre for Hip Surgery. John maintained that significant advances in surgery could only be achieved by concentrating effort and research on a specific problem, a philosophy amply vindicated when the center at Wrightington became the Mecca for orthopedic surgeons from all over the world.

In 1947 he was appointed Consultant Orthopedic Surgeon to Manchester Royal Infirmary and in 1950 his book on the *Closed Treatment of Common Fractures* was published. It was an original and stimulating approach to the manipulative treatment of fractures "which far from being a crude and uncertain art can be resolved into something of a science." It was an instant success and persuaded many orthopedic surgeons to revise some of their cherished suppositions.

In the late 1940s arthrodesis was regarded as an acceptable treatment for a stiff and painful joint, but no entirely reliable procedures were available. His technique of compression arthrodesis of the knee, published in 1948, was simple and highly effective. The principle of this operation was extended to the hip and other joints. Compression arthrodesis of the hip was an ingenious procedure but it required considerable technical expertise and even in Charnley's hands it was not always successful. He realized that fusion of the hip could only have a limited application and he turned his fertile mind to solving the problems of replacing the joint. Cup arthroplasty was an anathema to him; it offended his engineering principles and required a prolonged period of rehabilitation. Total joint replacement was the only solution.

Charnley was appointed Professor of Orthopedic Surgery at Manchester Royal Infirmary in 1972. He was appointed as a Doctor of Science of Manchester University in 1964 for his work on bone union and lubrication of joints. His remarkable achievements in the development of total joint replacement had received worldwide acclaim and the award of many honors and decorations. He was made a Commander of the British Empire in 1970 and Knight Bachelor in 1977. In 1975 he was elected a Fellow of the Royal Society, an honor unique in the history of British orthopedics. The citation for the Lister Medal awarded the same year was an admirable summary of his achievements. "In a period of some 15 years totally concentrated on this difficult problem by a combination of engineering, biological science, and superb surgical technique he has resolved these problems to the immense benefit of tens of thousands of patients. His investigation of the mechanical, material, and surgical problems of total replacement of the hip have helped to advance joint replacement in the knee, elbow and elsewhere." He received honorary doctorates of the Universities of Liverpool, Leeds, Belfast and Uppsala and was an honorary member of numerous orthopedic associations in Europe and North and South America. In 1978 he was awarded the Gold Medal of the British Medical Association and later he became an Honorary Fellow of the British Orthopedic Association. One of the honors that gave him special pleasure was conferred on him by the citizens of Bury in 1974, who made him a freeman of the borough.

Charnley's approach to surgery was always that of a perfectionist. This is reflected in his report, *Low Friction Arthroplasty of the Hip: Theory and Practice*, published in 1979, in which he described the operation in minute detail. For some years he insisted that surgeons who wished to perform the operation must first master the technique by working with him at Wrightington. There were those who thought that this was an attempt to maintain the unique position of the Centre for Hip Surgery, but this was not so, he was determined that surgeons should not undertake the operation with only general knowledge of the principle in the hope that they could improvize the details. A constant stream of surgeons came to Wrightington from all over the world, where they were treated to a surgical *tour de force* and at the same time warned of the mishaps that could and did occur from shoddy surgery.

He had no time for medical politics or committees and it was the "establishment" more than anything else that provoked his occasional explosions of anger. He worked with unabated energy after his retirement from the Health Service in 1976 and lost none of his interest and enthusiasm for research.

John had a lighter side, he loved a party and had a great sense of fun. He enjoyed messing

about in boats and in his younger days he was a keen skier. It was on one these holidays in 1957 that he met his wife Jill; they were married 3 months later and had two children, Tristram and Henrietta. Jill was a gifted and charming hostess; she created a beautiful home and a delightful garden at Mere in Cheshire, where she and John entertained their many friends and visitors from home and abroad with great generosity.

John Charnley, one of the most remarkable surgical innovators of this generation, died on August 5, 1982. He will be remembered by posterity for his low-friction arthroplasty of the hip, the inspiration of a surgical revolution that brought relief to countless patients crippled by arthritis.

Charnley is assured of a permanent niche in the annals of British orthopedic surgery. He will be remembered for his incisive thinking, his disdain of shibboleth, and his dedication to the solution of a surgical problem.

In the development of low-friction arthroplasty, Sir John was always ready to admit serendipity and good luck as well as help from his colleagues, experts in other disciplines and the Manchester Regional Hospital Board. What he never discussed is the superhuman effort and single-mindedness needed to achieve the aim he so firmly believed in.

Starting with a single clinical observation of a squeaking femoral head replacement, he repeated experiments on lubrication of joints and disproved the results of others.

A biological approach to the problem using Teflon shells to replace articular surfaces of the hip failed. Not discouraged, he continued with Moore and Thompson femoral head replacements articulating on a Teflon shell; the shell moved against the bone causing wear and bone damage. It was at this stage that the concept of "low frictional torque arthroplasty" was conceived and he developed a small diameter femoral head replacement, which articulated with a thick shell of Teflon; the Teflon failed. A lesser man would have surely given up. Yet the short-term clinical results had been so spectacular that he was convinced of the soundness of this concept. From then onwards, with the fortuitous introduction of high-density polyethylene, all his efforts were directed toward a perfect mechanical solution to a biological problem. In this he had the unfailing support of Chas F. Thackray of Leeds. He was the first to use acrylic cement as it should be used—as a grout. Parallel with this was the development of a clean-air operating enclosure, the total body exhaust system, special instruments and the tray system, which has made the operating room an extension of the autoclave and significantly reduced the rate of infection.

At the same time Charnley carried on with a very busy clinical practice and teaching both residents and visiting surgeons. He traveled extensively, lecturing, demonstrating and operating. He invariably provided the photographs and drawings for his numerous publications, including *Low Friction Arthroplasty of the Hip: Theory and Practice*.

He was proud of the Centre for Hip Surgery he created and the Low Friction Society formed by his past residents.

Every new problem was a challenge to be mastered. When histology of the bone–cement junction was to be studied, he took up the challenge with enthusiasm. Even in his last months of life, when surely he must have been aware that his health was failing, he did not cease to work and plan for the future and was ready to travel to Japan when invited by one of his disciples.

In all this he never lost sight of the human aspect and would easily recall patients' details from years before in a chance meeting in the long corridors of the hospital.

He will be missed by so many, including those he has worked with and those he has treated and whose lives he has shaped. He was a man of many talents, yet single-minded in his effort. If a man's claim to immortality is judged by the quality of life he leaves behind and the alleviation of human suffering, then surely the long-term results of the low-friction arthroplasty must be the living monument to a truly great man and benefactor of humanity.

John Mounsten Pemberton CLARK

1906–1982

J.M.P. Clark (Pasco to his friends from house officer days) was born in Leicester on November 28, 1906. He was educated at Wellingborough School and Leeds University, where he qualified in 1931. After house appointments at the General Infirmary, Leeds, he went into general practice in Dewsbury in order to pay off a student debt incurred to allow him to finish the course.

While in general practice he passed the primary FRCS examination and returned to Leeds Infirmary as resident orthopedic officer under the direction of R. Broomhead in 1938, and subsequently was appointed superintendent of the Children's Orthopaedic Hospital at Thorp Arch. He became FRCS in 1939 and was appointed the first tutor in orthopedic surgery at the University of Leeds in the same year. He also joined the Territorial Army and served throughout the 1939–1945 war, first in France, where he had experience of forward surgery and passed through Dunkirk, and then in Malta, Italy and Austria, being awarded the MBE for his services.

The poliomyelitis epidemic struck Malta in 1949. Pasco there came under the influence of H.J. Seddon (later Sir Herbert), sent there by the Ministry of Health as civilian adviser, who inspired him to develop a profound and lasting interest in tendon transplantation, influences that were increased by his close association with his orthopedic colleague at Caserta near Naples, R. Furlong, who specialized in tendon repair, and finally by the Austrian School of Orthopedics.

On demobilization he returned to the tutorship and was appointed honorary assistant orthopedic surgeon to the General Infirmary at Leeds in 1946 and surgeon to St. James' Hospital, Leeds, Thorp Arch Children's Orthopedic Hospital and to Batley, Dewsbury and Selby Voluntary Hospitals. His continuing interest in tendon surgery led to the publication in 1946 of his paper on "Reconstruction of Biceps Brachii by Pectoral Muscle Transplantation"—a work acclaimed by orthopedic surgeons in this country and in France. The same year he was invited to become a member of what was then known as the LBK Orthopedic Club—later to be renamed the Holdsworth Club after its founder Sir Frank Holdsworth. He was elected secretary and he maintained a lively interest in the club, where his astringent pertinent contributions were always welcome.

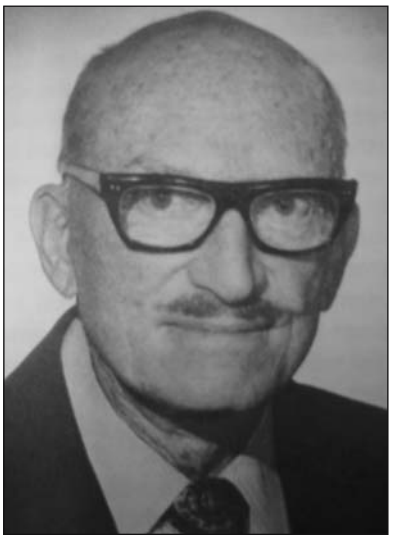
In 1948 he confined his hospital work to the Infirmary at Leeds and Pinderfields at Wakefield, where a center for the treatment of poliomyelitis had been set up. He was invited to take charge of this unit. At that center he developed the only school for remedial gymnasts. His work at Pinderfields Hospital, together with his consultancy at the Leeds Education Authority, gave him a vast experience in the treatment of poliomyelitis, of club foot and of cerebral palsy, which brought him a national and international reputation. This resulted in his nomination by Sir Herbert Seddon to advise Israel on the development of a similar poliomyelitis center, and he attended that country on many occasions over the next 20 years. He was much in demand as a lecturer in both the United Kingdom and Europe. His mastery of the English language and literature made it inevitable that he was invited to join the editorial board of *The Journal of Bone and Joint Surgery* and he wrote many papers on the treatment of poliomyelitis and tendon surgery. He edited the *Science of Fractures* in Sir Harry Platt's *Modern Orthopedic Series* and in retirement wrote his monograph *Tether*, *Contracture and Deformity*. In the latter he returned to one of his chief interests, the treatment of club foot, of which he had previously developed a method of medial release, which has been continued by his disciples in Leeds and the Leeds region.

In 1963 he promoted the development of the Riding (now the Leeds Regional) Orthopedic Club. In 1968 the University of Leeds conferred

on him a personal chair of orthopedic surgery and made him an emeritus professor in 1972.

Pasco was respected by all those with whom he worked, particularly by the men he trained, for his enthusiasm for the subject, coupled with his personal interest in them. He was a lover of classical music, especially opera, and he was no mean musicologist, being proficient with clarinet and piano. His knowledge of English and French literature was wide and throughout his life he displayed a great interest in all forms of art. A connoisseur of wine and food, he loved conversing with his friends about books, music and art.

In 1966 he married Sue Jones, the theater superintendent at Pinderfields Hospital, and this led to great happiness—probably the happiest years of his life. J.M.P. Clark died at Harrogate on February 16, 1982.



Ralph B. CLOWARD

1908–2000

Ralph B. Cloward was born September 24, 1908, in Salt Lake City, Utah. His parents were both descendants of original Mormon pioneers. He received his primary school education in Utah, did his undergraduate studies at the Universities of Hawaii and Utah, and graduated with a BS degree from the University of Utah in 1930.

The first 2 years of his medical education were spent at the University of Utah. He completed his medical education at Rush Medical College (University of Chicago), graduating in the class of 1934. He served his internship at St. Luke's Hospital, Chicago (1934–1935), then completed his neurology and neurosurgical training at Billings Memorial Hospital and the University of Chicago Clinics from 1935 to 1938 under Prof. Percival Bailey.

Dr. Cloward started his practice of neurology and neurosurgery in Honolulu, Territory of Hawaii, in 1938. He was in Honolulu when the Japanese attacked Pearl Harbor on December 7, 1941, and was assigned by the War Department to remain in Honolulu for the duration of the war to treat local injuries and battle casualties transported from the war front. For his services to civilians and the military during the war, he received a commendation from President Franklin D. Roosevelt "over and above the call of duty," the civilian equivalent of the Congressional Medal of Honor.

Dr. Cloward's contributions to neurosurgery are numerous. His main interest, however, rests in the area of the spine. The posterior lumbar interbody fusion (PLIF) was first performed in 1943 and in 1945 was reported to the Hawaii Territorial Medical Association. His first paper on the technique of the operation was published in the *Journal of Neurosurgery* (1953). In 1958, also in the *Journal of Neurosurgery*, Dr. Cloward published his original operation for treatment of cervical disc disease by anterior discectomy and interbody fusion. This operation is now used by most neurosurgeons throughout the world.

Dr. Cloward was an exceptionally skilled and innovative technical neurosurgeon and rightfully deserves the title "Michelangelo of Neurosurgery." Since his original description of PLIF in 1945, few, if any, of his contemporaries have been able to duplicate his results. The very fact that he could perform this difficult procedure in the early 1940s bespeaks his technical genius. By the same token, because of his technical superiority and the excellent results he obtained with his PLIF procedure, only a few surgeons were willing to attempt the operation.

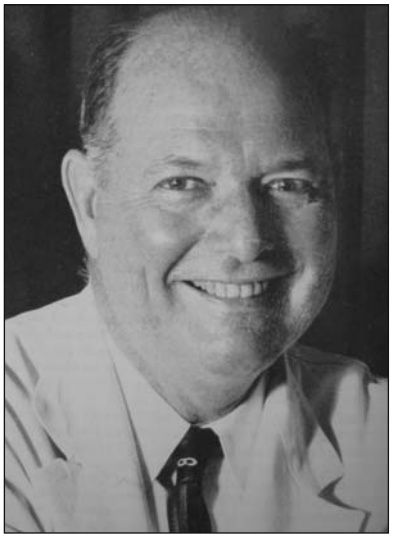
Dr. Cloward was also a genius in devising instrumentation and has had over 100 of his instruments cataloged by Codman and Shurtleff. Dr. Cloward's academic associations are extensive. He was clinical professor of neurosurgery, John A. Burns School of Medicine, University of Hawaii, Honolulu. He was visiting professor and head of the Department of Neurological Surgery at the University of Chicago Medical School, Albert M. Billing Hospital, and the University of

Chicago Clinics in 1954–1955. Over the years, he has been a visiting professor at the University of Oregon Medical School, the University of Southern California at Los Angeles, and Rush Medical College, The Rush Presbyterian–St. Luke's Hospital, Chicago.

Dr. Cloward was a fellow of the American College of Surgeons and is certified by the American Board of Neurological Surgeons (1941). He was a member of professional societies the world over. He was an honorary member of the Asian–Australasian Society of Neurological Surgeons and served as guest lecturer at the recent Sixth Congress in Hong Kong. Dr. Cloward had published 83 original articles in national and international medical journals on neurosurgical subjects and was the author of numerous monographs. He had also made three documentary surgical movies, filmed by the famous Hollywood surgical motion-picture photographer Billy Burke, on the subjects of lumbar vertebral body fusion, anterior cervical fusion, and anterior cervical cordotomy.

Dr. Cloward was a 32nd Degree Mason, a member of the Mormon Church, was a playing member of the Honolulu Symphony Orchestra (1926–1928), and for 1 year (1927) was a member of the Royal Hawaiian Hotel Band in Honolulu. He is also a member of the Sons of the American Revolution and the Sons of Utah Pioneers. Behind every great man, there is always a strong influencing woman. In Ralph's case, he was fortunate enough to have married Florence Bauer, a charming and gracious lady who presided over many beautiful receptions in their beachfront estate at the tip of Diamond Head.

He died in November 2000 at the age of 92.



John Robert COBB

1903–1967

John Robert Cobb was born in 1903 and raised in Brooklyn. He had a long American heritage, one of his ancestors having come over on the Mayflower. His father believed in discipline along with study and consequently sent him to the Stanton Military Academy in Virginia. He began his adult life without any clear conviction of his future interest or line of work. His father insisted upon a college education, but was unable to bear the full cost of his support, so that he had to work in the summers to accumulate enough money to see him through the ensuing year. He went to sea at the age of 16 on a merchant steamer and spent a summer cruising in the Gulf of Mexico. Here he encountered a hurricane and this experience remained vividly in his memory. He entered Brown University, where he majored in English literature and graduated with the degree of BA in 1925. He was on the swimming team and also on the wrestling team and he won his letter in cross-country running. His skill in swimming stood him in good stead, for he spent nine summers working as a lifeguard in the Rockaway Beach area and in this way earned enough each year to pay his college expenses. In his senior year he became converted to the idea of a medical career and had to rearrange his educational program because he had not enough science for acceptance in medical school. He made good this deficit by enrolling for a year at Harvard as a postgraduate student in biological sciences, and he always maintained that this was the best method of preparation for the

study of medicine. He was admitted to the Yale Medical School and graduated with his MD in 1930. Following this, he served a year as surgical intern and a second year as resident in orthopedic surgery at the New Haven Hospital. His strong bent for mechanics drew him toward the specialty of orthopedic surgery.

In 1934 he was appointed Gibney Orthopedic Fellow at the Hospital for the Ruptured and Crippled in New York by Dr. Phillip D. Wilson, who had just become Surgeon-in-Chief, transferring from Boston where he had previously worked. Dr. Cobb joined a team of young orthopedic surgeons who had been appointed to the staff by Dr. Wilson, including T. Campbell Thompson, Dr. Ernest Myers, and, later, Dr. Mal Stevens. Dr. Robert L. Patterson, Jr., and Dr. William Cooper joined the staff in the next few years. This was a period of change and reorganization at the hospital for the Ruptured and Crippled, with emphasis on teaching and researching, as well as clinical care of patients.

Dr. Cobb entered with enthusiasm into these new duties and was soon given the responsibility for organizing and building up a scoliosis clinic. He was awarded the degree of Doctor of Medical Sciences by Columbia University in 1936. Little was known about scoliosis or its cause and no really effective method of treatment had been devised. Just at this time, however, through the pioneer efforts of Robert Lovett and Albert Brewster, in Boston, and of Russell Hibbs and Joseph Risser, in New York, a method of treatment had been developed, which seemed to offer hope of correcting the deformity of the spine. This consisted of placing the patient in a hinged plaster cast and then bending the patient's spine to correct the deformity, followed by an operation to fuse the spinal joints and prevent recurrence. Cobb experimented with all methods of treatment but gradually became convinced that the best method of correction was the use of the turnbuckle plaster jacket combined with spine fusion. As he gained confidence in the method, his list of operative cases grew longer and the special outpatient clinic for these patients expanded. He kept accurate records and measurements of the patients and soon became convinced that the curvatures in growing children did not always progress and that it was best to observe the patients for a period of time before deciding that plaster correction and spinal fusion should be performed. His final conclusion was that no more than 10% of the patients required this drastic treatment.

He maintained an essentially conservative outlook, emphasizing diagnosis with respect to the type of curve and to the underlying etiology. He advocated a period of observation to find out whether or not the curvature would increase. Only when he found out that the curve was getting worse so that there was danger of the patient becoming a human "pretzel" would he undertake correction and fusion. He did not feel that braces or exercises offered anything to his patient. He recognized that scoliosis associated with neurofibromatosis represented a particularly severe type that required radical treatment early. He differentiated several types of congenital deformity of the spine and also several types of paralytic scoliosis. Along with the growth and development of his hospital clinic, where he registered 4,000 and more patients over the years, his private practice also grew. His colleagues looked to him for publication of results of treatment, but he was determined that he would make no premature statement and that his experience must grow until he could speak of results. He was meticulous in his operative techniques and watched over his patients as a father over his own children. He demonstrated his methods and presented his techniques most commonly at meetings of the American Academy of Orthopedic Surgeons. Young doctors came from all over the United States and also from foreign countries to learn about scoliosis from Dr. Cobb. He condensed many of the principles he followed into pithy epigrams, which proved popular among his students.

While he became a specialist in the treatment of scoliosis, he continued with a well-rounded experience in other divisions of orthopedic practice. He was appointed orthopedic surgeon to the Seaview Hospital on Staten Island, where he benefited from a rich experience in the care of patients with tuberculosis of the bone and joints and especially of the spine. He was appointed professor of orthopedic surgery at the New York Polyclinic Medical School and Hospital and assistant visiting orthopedist at the Willard Parker Hospital. He also served as a consultant on the staff of St. Charles' Hospital, in Port Jervis, Long Island, the Eastern New York Orthopedic Hospital School, in Schenectady, and the Veterans Administration Hospital, in Castle Point.

He was a fellow of the New York Academy of Medicine, member of the American Academy of Orthopedic Surgeons, of the American Medical Association, American Geriatrics Society,

American Medical Writers Association and the Association of American Medical Colleges. He was elected a member of the American Orthopedic Association and was particularly proud of his election as president of the Alumni Association of the Hospital for Special Surgery.

He was excluded from military service during World War II when his physical examination revealed hypertension unresponsive to treatment. He suffered a stroke in 1954 and was seriously disabled for a number of months. He made a good comeback and was able to resume operating in 1956. He carried on with all activities until 1965 when he suffered another stroke. This time he was completely disabled and he never recovered.

It is easy to write about a man's professional achievements, but much harder to present a picture of the man himself. John was a real character and he took positions for or against a lot of things. When he was against, he was an unrelenting foe. He hated pretense and was very critical of persons who were pushing methods of treatment that were unsound or had not been properly tested. He would riddle such claims with devastating criticism. He was a good companion and full of stories, which he loved to relate. He loved the sea and ships, which symbolized to him the primitive things that had served in man's evolution. In the same way he loved carpenter's tools and surgical instruments, of which he had great knowledge and mastery.

He married Louise Tower, of New Haven, in 1926, and they had two sons and a daughter. He took great pride in his family and most of his happiness revolved around them. His family owned an island in Belgrade Lake, Maine, where the different members built individual camps and thronged in the summer. Some of John's happiest times were spent there with his family. Later he bought a forested place in Cornwall on the Hudson, to which he transferred and continued his activities previously done in Maine. He was very saving and thrifty and could never bear to throw away anything. When it became necessary for the hospital to clear away from its files an accumulation of x-ray films, including those from the scoliosis clinic, he sorted out his own films and transferred them to one of his buildings at Cornwall. It is a cause for regret that he was never able to study those films as he had hoped.

The death on March 24, 1967, of John R. Cobb, after an illness of several years, brought to an early end the career of a great orthopedic surgeon and one who had made important contributions to the study and treatment of scoliosis or curvature of the spine.

Alessandro CODIVILLA

1861–1912

Alessandro Codivilla was born and raised in Bologna, the son of a pawn broker. He was forced to tutor other students to finance his education. On graduation from the medical school in Bologna, he began his training in surgery, moving from appointment to appointment. In 1899, at the age of 38 years, he gave up the practice of general surgery for the specialty of orthopedics and was appointed director of the Rizzoli Institute of Bologna. As might be expected, this appointment met with serious opposition, which Codivilla overcame by demonstrating his remarkable ability. Two years later, Codivilla was given the additional post of director of the Institute for Ricketts in Milan.

The next 12 years were filled with activity. During this time, Codivilla made important contributions to the treatment of patients suffering from residuals of poliomyelitis by improving methods of tendon transplantation. He also concerned himself with the problems of cerebral palsy, congenital dislocations of the hip, club feet, and scoliosis. In each area, he made significant improvements. It was Codivilla who was responsible for making the Rizzoli Institute world famous. Codivilla was a quiet man, not given to self-promotion. His students Vittorio Putti, Carlos

E. Ottolenghi, and Francesco Delitala spread his fame throughout the orthopedic world. Codivilla died in 1912 of chronic gastrointestinal disease, which had plagued him for many years.

In 1902, Codivilla introduced a method of skeletal traction, which he used primarily in the treatment of old deformities of the leg. This involved him in a bitter controversy over priority with Steinmann, whose method of skeletal traction was used primarily in the treatment of fresh fractures.

Ernest Amory CODMAN

1869–1940

In every generation there are a few outstanding personalities whose luster increases with the years. Such a one was Ernest Amory Codman. His life story is typical of that of many great men whose far-reaching intellectual powers and contributions are not recognized and appreciated in their own time; in fact, their efforts may even meet with scorn and ridicule. Often such reaction produces discontent, loss of faith in mankind, frustration and even social and economic hardships for these gallant pioneers. As I study the life of Codman, I am awed, stimulated and humbled by his brilliant mind, his integrity, his tenacity of purpose, his keen, original observations, his gallantry and his egotism tempered with humility. Every student of medicine should study his story.

Born in Boston on December 30, 1869, Codman was of pure English Puritan stock. He was a true product of his heritage. He obtained his preliminary education in the private schools of the Boston area and entered Harvard Medical School in 1891. His third year of medical education was spent abroad, and he was awarded the degree of Doctor of Medicine in 1895. While traveling abroad he visited many clinics in the outstanding medical centers of the day—London, Paris, Berlin, Vienna, Cairo and others. While in Vienna he became aware, for the first time, of the subdeltoid bursa mentioned in a little book by Dr. E. Albert. This small bursa was to become the theme of his life's work; and from this theme many side excursions were destined to be taken. Although in subsequent years many other interests took of his time and stamina, nevertheless he pursued the study of the subdeltoid bursa and its environs throughout his entire life, the culmination being a book entitled *The Shoulder*, which was published in 1934.

Very early in his career he challenged many frontiers in medicine. He pursued these studies with great tenacity; he made and recorded many original observations and became an authority in the new fields. In all his undertakings he worked to capacity; he left no stone unturned, he went deeply into the subject. These traits were first exhibited in 1895 when he was appointed assistant in anatomy at the Harvard Medical School. For the next several years he studied in minute detail the subdeltoid bursa and its pathology in the dissecting room and on postmortem specimens. This study made him aware of the clinical significance of this region of the shoulder joint. He applied this knowledge in the outpatient clinics of the Massachusetts General Hospital, when he was appointed surgeon to outpatients in 1899. In 1904 his first paper appeared on this subject. At this time he was to learn that he was not the first to write on subdeltoid bursitis; during the discussion of his paper it was brought to light that Kuster described the bursa in 1902, calling it the subacromial bursa, which name Codman adopted promptly because he considered this designation to be more appropriate than subdeltoid bursa.

In spite of his extensive knowledge and familiarity with the shoulder region, very few of his colleagues were impressed by his work, so that early in his career he learned that too frequently one is not recognized by one's own generation. Although discouraged and frustrated, he maintained his interest in the shoulder and continued to make new observations and contributions to the field.

Such a mind as Codman's could not restrict itself to a single area, and in 1895 he became interested in Roentgen's discovery. Convinced that x-rays were destined to play a major role in surgery, he spent the next 5 years in intensive study and experimentation with them. An apparatus, the Crookes tube, identical with the one with which Roentgen worked, existed in the laboratory of the Harvard Medical School. Under the guidance of Professor Trowbridge, of Harvard, and Professor Elihu Thomson, of the General Electric Company, at Lynn, MA, he learned the essential points of the apparatus and, in 1896, applied his knowledge to clinical studies. During this 5-year period he became an authority in the interpretation of the pathologic states by this medium. He published a number of articles on x-ray subjects; an outstanding one dealt with x-ray burns. Another important contribution of this period was a study of joints and bursas injected with nonradiable material done on cadavers. In 1898 he completed this anatomic study and presented the Warren Museum with an album containing standard x-ray anatomic pictures of each joint of the body in different positions. A by-product of this last study was a monograph on the wrist, dealing with the normal motions of this joint.

Although this interest in x-rays brought Codman much satisfaction and made him an expert in x-ray diagnosis, it also brought disappointment and frustration. He prepared a monumental monograph, *The Use of X-ray in the Diagnosis of Bone Diseases*, which he submitted for the Gross Prize given every 5 years in Philadelphia. The committee awarding the prize was composed of prominent Philadelphia surgeons, among whom were W.W. Keen and J.W. White. The prize was awarded to the author of an essay dealing with the benefits of ligation of the carotid arteries in cases of malignant disease of the face. Failure to win the prize was a blow to Codman, yet he realized that the busy surgeons of his day had failed to grasp the practical value of x-rays in the diagnosis of disease and that the material that he had presented to the committee was unintelligible to them. It was not until 5 years later that Dr. W.W. Keen requested him to write a chapter on the use of x-rays in surgery. Instead of doing this, Codman submitted to Keen the unpublished paper *in toto* for his book. It was published without change in *Keen's Surgery*. Codman had learned another lesson: that conformation of one's ideas takes time.

While constantly exploring new fields, Codman practiced as a general surgeon. His keen powers of observation in all surgical problems were disclosed again when he made a preoperative diagnosis of a perforated duodenal ulcer and operated successfully on the patient. This was the first case diagnosed and operated on at the Massachusetts General Hospital. This event led him to pursue a study of chronic duodenal ulcer and surgery of the duodenum. In 1909 he wrote a paper on this subject. The fact that the lesion was seldom diagnosed was evident when he was able to collect only 50 proven cases from the histories of the medical and surgical departments, and 11 of these cases were his own. Nevertheless, during this period his interest in the shoulder continued, and he demonstrated that rupture of the supraspinatus tendon could be repaired; he operated successfully on two cases.

At about this time a seed in the mind of Codman began to take root. It had been planted almost a decade before. It was to make him one of the most controversial figures of his generation. At the turn of the century he conceived the End Result Idea, "which was merely the common-sense notion that every hospital should follow every patient it treats long enough to determine whether or not the treatment was successful, and to inquire 'if not, why not,' with a view to preventing similar failures in the future." Through his efforts this plan was instituted on the service of his chief, Dr. F.B. Harrington, at the Massachusetts General Hospital. But it was not until 1910 that he was able to convince Dr. E. Martin, of Philadelphia, of the merits of his plan. Dr. Martin then applied the plan to enhancing his own views on hospital standardization. This occurred during a visit of the Society of Clinical Surgery to the British Surgeons, which led to the organization of the American College of Surgeons, under the leadership of the two Martins, Dr. E. Martin, of Philadelphia, and Dr. Franklin Martin, of Chicago. Among the other prominent surgeons of the time who dreamed of and acted on the crystallization of the College Idea were J.G. Mumford, Cushing and Ochsner. The End Result Idea became the instrument for standardizing hospitals "primarily on the basis of service to patients, as demonstrated by available records." In 1912, a Committee on the Standardization of Hospitals was appointed by Dr. E. Martin under the auspices of the informal Clinical Congress of Surgeons of North America; another committee was also appointed at this

time, its function being to organize the American College of Surgeons. Codman was appointed chairman of the first committee. Four years later the Committee on Standardization of Hospitals became a committee of the American College of Surgeons, and it still was headed by Codman.

With his inherent zeal, enthusiasm and tenacity, Codman plunged into the work set for his committee. He labored and preached the doctrine of the End Result Idea. During this period his interest in the shoulder waned but never was lost. It is doubtful that many surgeons, except for the few who conceived and gave birth to the idea of the American College of Surgeons, recognized the effect that the work of this committee would have on American medicine and surgery. On the other hand, Codman was so convinced of the merits of the End Result Idea that he decided to open a small hospital of his own where he could work out his ideas and make it an example of the Idea. This decision was really forced upon him by the existing seniority system at the Massachusetts General Hospital, tradition making it impossible for him ever to attain the status of Chief of Service. It was a volcanic idea, whose rumblings first were heard on May 14, 1913, when Codman spoke on *The Product of a Hospital* in the Philadelphia Academy of Medicine, when he posed such questions as "For whose primary interest is it to have the hospital efficient: the patient who seeks relief; the public who supports the hospital and in turn expects a high standard of knowledge on the part of their own private physician or surgeon or the hospital which as an institution has an individuality of its own?" "Who represents or acts for these interests?" "For whose interests is it to insist on the resignation of incompetent old Doctor So and So who is one of the best fellows that ever lived?" "Who will warn the largest contributor that his agreeable classmate, Doctor So and So, is totally unfitted to remove his stomach?" The second rumbling occurred on May, 1914, when he presented a paper entitled *A Study on Hospital Efficiency* before the American Gynecological Society. Although Codman was sincere and upright in the conduct of his investigations and bore malice toward none, of necessity he brought to light many defective practices that were bound to react on prominent persons concerned with hospital practice. Some of these were members of the boards of trustees of hospitals; others, superintendents of hospitals. But the greatest number was made up of prominent physicians and surgeons. He used every means to impress his colleagues with the importance of his mission. The seniority system, which operated in all major hospitals of the country, could not be tolerated in the End Result Idea. In protest over this system and to impress the board of trustees, he resigned from the staff of the Massachusetts General Hospital in 1914. When his resignation was accepted, he applied for the position of Surgeon-in-Chief on the grounds that his results in the past 10 years had been better than those of other surgeons. He supported his claim with documentary evidence. His application was ignored.

Next, he had the idea of enlisting the support of the community. He reasoned that by exposing the existing evils of hospital practice and organization and by ridiculing those concerned, opinion would favor his End Result Idea. He used the authority invested in him as chairman of the local medical society to organize a panel to discuss hospital efficiency. Because of the delicacy of the situation, it was difficult for him to obtain the speakers that he wanted, most of them refusing the invitation. Nevertheless, he did succeed in assembling a heterogeneous panel that comprised a hospital efficiency expert, a surgeon (from out of town), a hospital superintendent, a member of the board of trustees of the Peter Bent Brigham Hospital and the mayor of Boston, James M. Curley. In order to ensure that all phases of the problem were discussed thoroughly, he himself was the last speaker and his topic, *General Discussion*. The meeting was advertised skillfully; the response was gratifying; the hall was packed; there was hardly standing room. Codman propounded his ideas and answered the question in the mind of the audience through the medium of a cartoon that had not been mentioned or shown before the meeting. Only the artist and Codman were aware of its existence; it was entitled "The Back Bay Golden Goose Ostrich." It depicts President Lowell standing on Cambridge Bridge wondering whether it would be possible for the professors of the medical school to support themselves on their salaries if they had no opportunity to practice among the rich people of the Back Bay. The Back Bay is represented as an ostrich with its head in a pile of sand, devouring humbugs and kicking out her golden eggs blindly to the professors, who show more interest in the golden eggs than they do in medical science. On the right is the Massachusetts General Hospital with its board of trustees deliberating as to whether, if they really used the End Result System and let the

Back Bay know how many mistakes were made on the hospital patients, it would still be willing to give its golden eggs to support the hospital, and would still employ the members of their staff and thus save the expense of salaries. Across the river and over the hill are seen armies of medical students on the way to Harvard, having heard that the End Result System would be installed in her affiliated hospitals. Audience reaction was varied, and many who were associated intimately with hospital work got up and left. Many of these were colleagues for whom Codman had great respect: a few voiced their anger; the majority were amused; a very few congratulated him.

It was like the eruption of a volcano: many were burned, but Codman also was singed. To some he was a radical, ruthless personality with no respect for tradition and the medical profession. He was asked to resign as chairman of the local medical society and was dropped from the position of Instructor in Surgery in the Harvard Medical School. For months, many of his friends refused to speak to him, and he was avoided at social gatherings.

This was a trying period for Codman. However, this reaction had been anticipated, and it did not deflect him from his work. In 1916 appeared the third report on "Study on Hospital Efficiency," based on a 5-year study of all those who had died after operation in 15 years at the Massachusetts General Hospital. It brought to light the value of efficiency analysis. At his own expense ($3,000), he sent a copy to every member of the Massachusetts Medical Society and of the American College of Surgeons.

Such efforts do not go unrecognized forever. Codman was gratified to receive many requests for copies of the report from hospital trustees. The Woman's Hospital in New York City instituted almost *in toto* the End Result System; other New York hospitals accepted certain features of it. Even in Boston, relationships became less tense; Harvard Medical School gave him a room for 5 years from which to conduct the Registry of Bone Sarcoma, and in 1929 the Massachusetts General Hospital honored him with the appointment of Consulting Surgeon. But more important than all these acknowledgments was the acceptance of the cartoon by the Boston Medical Library; it was mounted on cloth and arranged like a folding map. As the years went by, more and more hospitals adopted some features at least of the End Result Study. It was a great comfort to Codman that the members of the Society of Clinical Surgery stood solidly behind him, although many did not agree with his methods. Also, many of his friends at the Massachusetts General Hospital endorsed, and even encouraged, his work; and in this outstanding institution the End Result System was established and maintained. In the Massachusetts General Hospital the policy of special assignments to certain physicians in order to investigate new and old methods relative to their value to the patient was progressing satisfactorily. Codman relinquished his chairmanship of the Committee on Hospital Standardization in 1917. By this time the College of Surgeons had become a powerful organization in America, and the work of the Committee on Hospital Standardization had become an important function of the College.

For the next several years, Codman's work at home was interrupted by World War I. Before the United States entered the war, he had served with the Canadian forces in England. Here, together with Dr. H.V. Andrews, of Boston, he participated in the organization of an emergency hospital in Halifax and set up an End Result System in the hospital. After a short stay in England, he returned to the United States, and in September, 1917, he was appointed Senior Surgeon of the Coast Defences of the Delaware. In November he became Regimental Surgeon in the Artillery and set up his system in his new post. In January, 1919, he became Surgeon-in-Chief at the Base Hospital in Camp Taylor, where again he instituted an elaborate and efficient End Result System. Through his entire army service, he never relinquished his End Result Idea, setting it up wherever he was located and propounding its merits and values. He returned to Boston and to his closed hospital in June, 1919.

Upon his return to Boston, Codman resolved to abstain from any new projects and determined to become "a money maker, at least until I had paid off my debts." In spite of this resolution, he soon found himself involved in the organization of the Registry of Bone Sarcoma—a study that occupied him for the next 13 years. This fundamental piece of work gave him much personal satisfaction but little financial return. He used this study to demonstrate again the value of the End Result System in hospital organization. He became an authority on the subject of bone tumors and magnanimously offered his services as consultant free to his colleagues. In 1920 there were few workers who had acquired sufficient knowledge of the varieties and the behavior of bone tumors to

warrant their making a diagnosis and recommending treatment with reasonable certainty. Many limbs were sacrificed needlessly; on the other hand, underdiagnosis often resulted in death of the patient. At this time the four eminent authorities were Bloodgood, Coley, Ewing and Mallory. These men supported Codman in his study. By his attitude and his particular knowledge of the subject, he decried surgeons who assumed the responsibility of treatment without consulting those more versed in the subject of bone sarcomas. Also, he brought these facts vigorously before trustees of hospitals in order to emphasize the point that surgeons were not appointed to hospital positions because of their knowledge. The zeal with which he conducted his campaign did not enhance his popularity. Offense was taken, particularly by the most successful surgeons of the day who, as Codman stated, "spent their lives in the practice of the art of medicine rather than in that of the science, and, being financially successful, are able to influence the trustees of hospitals against an analysis of the results; (and) comparison of achievements would be, to them, as odious as a comparison of incomes."

From this brief sketch of Codman's life, one is impressed with his tenacity of purpose. This was true of him until his death in Boston on November 23, 1940. Now let us mention some of his ideas and the effect that they have had on medicine. Much that he attempted was not achieved in his day, but he set in motion processes that in later decades have gained a momentum of which even he could not have dreamed. His contributions in the field of x-rays, gastrointestinal diseases, the shoulder and bone tumors have stood the test of time and attest to his powers of clinical observations. His End Result Idea has taken root in many disciplines and provides the means for accurate evaluation of methods and practice in medicine and surgery. Essentially it is clinical research. The bulk of the medical literature in all specialties is based on this system of evaluation. It is a method that will gain in depth and breadth, and never will be abandoned by the medical profession.

By establishing the policy of "special assignments" to young men in the profession, much good has been achieved. Methods and practices having little value are abandoned, while those of merit are made available quickly to the profession at large. In addition, this feature has laid the groundwork for development of experts in certain fields of medicine and surgery. Although the trend toward specialization had started before Codman's time, no one can deny that "special assignments" in hospitals gave it impetus.

The End Result Idea was the first tool used by the American College of Surgeons to standardize hospitals in the United States. Codman's foremost ambition in life was the establishment of the End Result System in every hospital, and he employed every means at his command to this end. His knowledge of the shoulder joint was molded toward this end. To physicians, surgeons, employees and insurance directors he stressed continually the need of early diagnosis of rupture of the supraspinatus tendon. He pointed out that failure to diagnose resulted in marked disability and loss of money. He calculated that only 100 neglected cases of this lesion might cost more than the gross income of the average doctor in a lifetime. In this way he hoped to acquaint all those involved in medical care with the merits of the End Result System and to interest them in installing it in their particular fields of endeavor.

Codman was a great pioneer. It is a sad commentary that so few physicians know of his life and achievements. He grows in stature with each generation. Many of his ideas have already been accepted; many others will yet be. Codman knew the uphill battle that he was fighting when he said, "Honors, except those I have thrust on myself, are conspicuously absent on my chart, but I am able to enjoy the hypothesis that I may receive some from a more receptive generation."

Wallace H. COLE

1888–1973

Wallace H. Cole was born in Ft. Custer, Montana in 1888. He was educated in St. Paul and at the University of Minnesota, where he received his MD degree in 1910. A year of internship in St. Paul was followed by postgraduate education in Baltimore (Bloodgood), Boston (Goldthwaite), and Liverpool (Robert Jones). A tour of orthopedic clinics in Germany and France completed his training. Upon returning to St. Paul he was appointed to the staff of the Hospital for Indigent, Deformed, and Crippled Children (now Gillette State Hospital) and in 1923 became the first chief surgeon of the Twin Cities Unit of the Shriner's Hospital. He continued his attendance at these hospitals for more than 50 years.

His military experiences were unusual. He served as a captain in a National Guard Horse Drawn Field Artillery Unit on the Mexican border in 1916 at the time of Pershing's expedition into Mexico in pursuit of Pancho Villa. In 1917 he was a member of the "Goldthwaite unit," a group of young orthopedic surgeons chosen to be part of the American Expeditionary Forces in France in World War I. This group included many surgeons who made substantial contributions to the growth and development of orthopedics in the United States. In 1941, during World War II, Dr. Cole was director of an American hospital in Oxford, at which casualties were treated during the bombing of London. Dr. Cole's major professional interest was the crippled child. It was his support of Sister Elizabeth Kenny that resulted in the widespread use of the Kenny method for treatment of acute poliomyelitis in the United States. As Professor of Orthopedic Surgery at the University of Minnesota (1929–1956), he had a strong influence on residents and students. Dr. Cole never retired. He maintained his interest and attendance at orthopedic conferences until his death in 1973.

Abraham COLLES

1773–1843

Abraham Colles was responsible for much of the early scientific development of surgery in Ireland and was the leading Irish surgeon of his time; indeed he is regarded by many as the greatest of them all. His wider fame rests upon the classical descriptions he gave of certain anatomical structures and of a common fracture of the radius.

He was born at Millmount near Kilkenny on July 23, 1773, being descended from a Worcestershire family, some of whom had sat in Parliament. A branch of the family had settled in Ireland and one of its members was said to have been in medical practice in Kilkenny in the early eighteenth century; his descendent, William Colles, married Mary Anne Bates of Woodbroak, County Wexford, and Abraham was their son. The father, who managed the extensive quarries of black marble he had inherited, died when the boy was only 6 years old but the mother gave a good education to her young children and held their affection throughout a long life of 89 years. They

were sent to Kilkenny Grammar School where the headmaster was the Reverend John Ellison, sometime Fellow of Trinity College, Dublin, which college Abraham, and his brother William, entered in 1790. At the same time Abraham was apprenticed for 5 years to Philip Woodroffe, resident surgeon at Steevens' Hospital. Early in 1795 he took the degree of Bachelor of Arts, and later the same year was granted a licence to practice by the College of Surgeons. While at Trinity he wrote a paper on "Remarks on the Condition of Political Satire," which he was advised to publish by Edmund Burke. Having received his diploma, he proceeded to the medical school of Edinburgh University where, after 2 years of most assiduous work and frugal living, he gained the degree of Doctor of Medicine. From Edinburgh he journeyed to London, walking the whole distance of 400 miles. He attended some of its hospitals and at Guy's came into contact with Astley Cooper, whom he assisted in making the dissections that were to illustrate Cooper's monograph on hernia.

Colles returned to Dublin towards the end of the year 1797 and became attached to the Sick Dispensary in Meath Street, a charity that had been established a few years before by the Society of Friends. The duties included home visiting in the slums of the city. He had not to wait long before receiving a hospital appointment but meanwhile this experience of medical practice among the sick poor, and acquaintance with their environment, was of great value before embarking upon the surgical career for which he was trained. On July 26, 1799, he was elected resident surgeon at Steevens' Hospital in succession to his former chief, Philip Woodroffe. At this same hospital he had served his apprenticeship and, having broadened his experience at other British schools, in Edinburgh and in London, and returned home proud of the friendship of Astley Cooper, it was at this hospital that he was destined to spend the rest of his surgical life. He was only 26 years of age and it was an important appointment, for he became administrative head of one of the leading hospitals of Ireland with complete charge of one-third of the surgical beds, and was also free to engage in private practice, to teach and to receive apprentices. Furthermore, on the attainment of this post he was elected a Member of the Royal College of Surgeons in Ireland, which at that time corresponded to the Fellowship of today. The College was in its early years and the reason for its foundation was much the same as that of the older English College. The Irish surgeons were determined, as their brethren over the water had been, to separate themselves from the barbers, and this they partly accomplished by forming the Dublin Society of Surgeons on March 29, 1780. The next step was the education of surgeons and the regulation of the profession of surgery. In the University the teaching of medicine alone was undertaken; surgery was neglected; it still had the stigma of the barber. The Society therefore began to agitate and petition for a Royal Charter "dissolving the preposterous and disgraceful union of the surgeons of Dublin with the barbers and incorporating them separately and distinctly" into a Royal College. After a few years of opposition, the Charter was granted on February 11, 1784. The next year three chairs were founded, one in anatomy including physiology, and the other two in surgery and midwifery. Thus the training of students began, but before admission to the College they had to pass a preliminary examination in Latin and Greek classics.

Colles worked with unflagging energy at Steevens' Hospital and soon became recognized as an able surgeon. He was a first-rate clinical observer and a dexterous and resourceful operator. He soon gained the respect and confidence of the Dublin surgeons, to such an extent that on January 4, 1802, when only 29 years of age, he was elected President of the Royal College of Surgeons in Ireland. Two years later he was appointed Professor of Anatomy and Physiology, as well as one of the professors of surgery. The choice of Colles for these chairs was particularly happy. He had always been attracted to the study of anatomy, regarding it as the bedrock of surgery. He affirmed that in the training of students, anatomy, in its application to surgery, should be the constant theme of the teacher. The anatomists of the Renaissance dissected and taught one system at a time—the muscles, the nerves, the blood vessels, the viscera, each separately without reference to each other; and this tradition of teaching by systems persisted until the beginning of the nineteenth century. James Macartney, Professor of Anatomy at Trinity College Dublin, who had been trained at St. Bartholomew's Hospital and at the great Windmill Street School of Anatomy, appears to have been the first in the British Isles to teach topographical anatomy with emphasis on the relation of the structures of a part to each other. Colles adopted this new method of instruction and at every opportunity stressed "the practical application of anatomical researches to surgical uses." In this way he reorganized the

teaching of anatomy at the College and succeeded in arousing and maintaining the interest of students by regional dissections, so that they made more "rapid advances in useful knowledge" than by way of their previous study of uncorrelated systems. Furthermore, he was the first to produce a work on this new topographical approach entitled *A Treatise on Surgical Anatomy*, which was published in 1811. The book was reprinted in America in 1820 and again in 1831.

By his zealous devotion to dissecting and lecturing, Colles enhanced the reputation of the College. At the same time his hospital work remained unabated, but in 1813 he resigned the appointment of resident surgeon and was promoted to the visiting staff as assistant surgeon. In 1811 he tied the first stage of the right subclavian artery for a large axillary aneurism, Thomas Ramsden of St. Bartholomew's Hospital having tied the third stage of the artery for a similar condition 2 years previously. Each patient survived only a week because of sepsis. In his published paper describing the anatomy and details of the operation, Colles concludes: "Although this operation has not yet proved ultimately successful; I think we should not despair. The history of surgery furnishes parallel instances of operation, now generally adopted, which, in the first few trials, failed of success."

"On the Distortion termed Varus or Club Foot" was the title of a paper he contributed to the Dublin Hospital Reports of 1818.[3] Two dissections of varus feet were described in detail, one of a child of 5 years and another of a youth of 18. Although he noted that "the os scaphoides was drawn inwardly from the normal head of the astragalus," yet he concluded that the oblique position of the tarsal joint, and the altered form of the astragalus were the primary causes of the distortion; from which it would appear that he either did not accept or did not fully appreciate the well-known dictum of Scarpa in his summary of the anatomy of varus, which was that "none of the tarsal bones is actually dislocated; but in addition to the state of extension of the ankle joint, they undergo rotation on their axes, and the astragalus suffers less alteration of position than any of the tarsal bones." Colles cured many of these deformed feet by treating them with a club foot shoe of his own device. The shoe had a resistant sole of tin, covered with leather, laced down the middle and open at the toes. A broad strap in front of the ankle held the heel in the angle between upper and sole. A detachable angular side splint, slotted into the sole, extended along the inner side of the foot and up the inner side of the leg. Another splint, also slotted into the sole, continued along the outer side of the leg only. The splint, of which an illustration was given, corrected the equinus deformity and promoted eversion of the foot. It was applied a few weeks after birth and was continued for 3 months or more.

Colles was also interested in spinal disease. He adopted the teaching of Pott in his condemnation of steel stays and "other pieces of machinery" but was less convinced about the efficacy of applying caustic to each side of the gibbus. He displayed a remarkable prophetic insight with regard to the value of rest and the open air by saying: "it is absolutely necessary that the patient should be kept in the horizontal position, and this not merely for two or three months, but for a year or even two. But the caustic issues and position alone will not cure the disease of themselves; the general health, the tone of the constitution must be improved by country air, proper diet and so on; it will not be enough to send your patients to the country, if they are left shut up in a room; they must be brought out into the open air, but of course in a cot, for they are not to quit the horizontal position."

Because of the work of Colles on the anatomy of the perineum and on the common fracture of the radius, his name is familiar to every student of medicine.

Colles' Fascia

In the *Treatise on Surgical Anatomy* of 1811, Colles dealt with the anatomy of the perineum and, in particular, drew attention to the middle fascia of the urogenital triangle, the attachments of which served to confine within strict limits extravasation of urine from a ruptured urethra. He described this structure as follows:

> Now proceed to dissect the perineum. Raise the skin of the perineum, extending the dissection beyond the tubera ischii to the thighs. This exposes to view a strong fascia, which, on dissection, will be found to cover the entire of the perineum, and to blend itself with the structures of the scrotum. This fascia, although on a superficial view it appears continuous with the fascia of the muscles of the thigh, will yet be found, on closer examination, to attach itself very firmly to the rami of the ischium and pubis. The texture and connexions of this fascia will serve to explain many of those phenomena attendant on the effusion of urine into the per-

ineum, by rupture or ulceration of the posterior part of the canal of the urethra.

First, then, you will find that this fluid, when so effused, although it forms a tumour in perineo, rarely terminates by suppuration and ulceration in this spot; being here resisted by the dense and unyielding texture of the fascia, diffusion laterally towards the thighs is prevented by the close attachment of this fascia to the rami of the pubis and ischium; while its progress forwards is favoured by a quantity of cellular substance, interposed between the surface of the perineal muscles and this fascia.

Colles' Ligament

Colles' ligament is the name sometimes given to the small triangular fascia that springs from the pubic crest and ilio-pectineal line and passes upwards and inwards towards the Linea alba under cover of the internal pillar of the external abdominal ring. This ligament is also described in his book on *Surgical Anatomy*.

Colles' Fracture

At Stephen's Green on February 21, 1814, Colles wrote his classical paper, "On Fracture of the Carpal Extremity of the Radius," which appeared in the *Edinburgh Medical and Surgical Journal* in April of that year. It was a comparatively short paper but in its accuracy, clarity and conciseness, it was admirable. It is an outstanding descriptive fragment of clinical surgery, the reading of which conveys a feeling of finality in the presentation of the signs of fracture and deformity. The passage of time has altered only the treatment of this injury and not more than 20 years have passed since a satisfying technique has emerged. Colles was established as a great clinical surgeon by this paper. At the time he wrote it, he had not been able to verify his observations by dissection and he had not the advantage of x-rays. There is scarcely a reference to this common injury in the literature before 1814. Those who were aware of it believed that it was a dislocation of the carpus. Colles dissented from this view:

The injury to which I wish to direct the attention of surgeons, has not, as far as I know, been described by any author; indeed, the form of the carpal extremity of the radius would rather incline us to question its being liable to fracture. The absence of crepitus and of other common symptoms of fracture, together with the swelling which instantly arises in this, as in other injuries of the wrist, render the difficulty of ascertaining the real nature of the case very considerable.

This fracture takes place at about an inch and a half above the carpal extremity of the radius, and exhibits the following appearances.

The posterior surface of the limb presents a considerable deformity; for a depression is seen in the forearm, about an inch and a half above the end of this bone, while a considerable swelling occupies the wrist and the metacarpus. Indeed the carpus and base of the metacarpus appear to be thrown backward so much, as on first view to excite a suspicion that the carpus has been dislocated forward.

On viewing the anterior surface of the limb, we observe a considerable fulness, as if caused by the flexor tendons being thrown forwards. The fulness extends upwards to about one-third of the length of the forearm, and terminates below at the upper edge of the annular ligament of the wrist. The extremity of the ulna is seen projecting towards the palm and inner edge of the limb; the degree, however, in which this projection takes place, is different in different instances. . . . At last, after many unsuccessful trials, I hit upon the following simple method of examination, by which I was enabled to ascertain that the symptoms above enumerated actually arose from a fracture, seated about an inch and a half above the carpal extremity of the radius.

Let the surgeon apply the fingers of one hand to the seat of the suspected fracture, and, locking the other hand in that of the patient, make a moderate extension, until he observes the limb restored to its natural form. As soon as this is effected, let him move the patient's hand backward and forward; and he will, at every such attempt, be sensible of a yielding of the fractured ends of the bone, and this to such a degree as must remove all doubt from his mind.

Colles' Law

In 1837 Colles published a book entitled *Practical Observations on the Venereal Disease and on the Use of Mercury*. He strongly advocated the use of mercury in syphilis in opposition to a prevailing tendency among surgeons to employ less effective remedies. But in using it he maintained strict control of the patient and of the use of the drug, for his experience in clinics for venereal disease had taught him the dangers of mercurial poisoning. In a chapter dealing with syphilis in infants, he made an observation that later became known as Colles' Law:

One fact well deserving of our detention is this: that a child born of a mother who is without any obvious

venereal symptoms and which, without being exposed to any infection subsequent to its birth, shows this disease when it is a few weeks old, this child will infect the most healthy nurse, whether she suckle it or merely handle and dress it; and yet this child is never known to infect its mother, even though she suckle it while it has venereal ulcers on the lips and tongue.

He clearly observed the apparent immunity of the mother but could not have guessed that she already had the disease in a mild form. It was nearly 70 years later that the *Spirochaeta pallida* of Schaudinn was discovered and the serological test devised by Wassermann.

This work on venereal disease was his last important contribution. Failing health had compelled him to resign the professorship of surgery 1 year before his observation. He had already vacated the Chair of Anatomy in 1827 at a time when he was lecturing to over 250 students. He continued at Steevens' Hospital until 1841, where he had served as man and boy for close upon half a century and had been Consulting Surgeon to the Rotunda Hospital since 1826. In 1830 be was elected for the second time President of the Royal College of Surgeons in Ireland, and 9 years later was offered a baronetcy but declined the honor. He died on December 16, 1843, and "his funeral was attended by a huge concourse of medical men, students and friends."

For the last 20 years of his life he had the most lucrative surgical practice in Dublin and this in spite of the demands of his professorship and hospital duties. He lived during most of his life at 21 Stephen's Green, having married Sophia, daughter of the Rev. Jonathan Cope, Rector of Ahaseragh, County Galway. They had ten children; the eldest son, William, became Regius Professor of Surgery at Trinity College and was elected President of the Royal College of Surgeons in Ireland in 1863. Colles was an indefatigable worker all his life; he was often in his dissecting room before six o'clock in the morning, and at Steevens' Hospital at seven. As a lecturer he was always earnest, lively and sometimes humorous. A critical contemporary speaks of him as "without many books, and paying less attention to their contents, he is still the laborious, shrewd, observing, matter-of-fact and practical surgeon. As an operator he has many equals, and some superiors; but in advice, from long experience and a peculiar tact in discovering the hidden causes of disease, he has scarcely a rival." He was a close and accurate observer; nothing escaped him; yet he was cautious in interpreting what he observed, and this quality of mind often prevented him from speculative reasoning about the behavior of disease. He made a substantial contribution to knowledge, added to which the "outstanding feature of his character was his strict honesty both in thought and deed, and he followed consistently the highest code of professional honour." And what he had to say was communicated in such a simple and easy style that the reading of his papers gives a peculiar pleasure even today.

On his retirement in 1836, the College presented an address to him, which said "It is the unanimous feeling of the College, that the exemplary and efficient manner in which you have filled this Chair for 32 years, has been a principal cause of the success and consequent high character of the School of Surgery in this country." No other surgeon of Ireland holds so secure a place in the history of British surgery.

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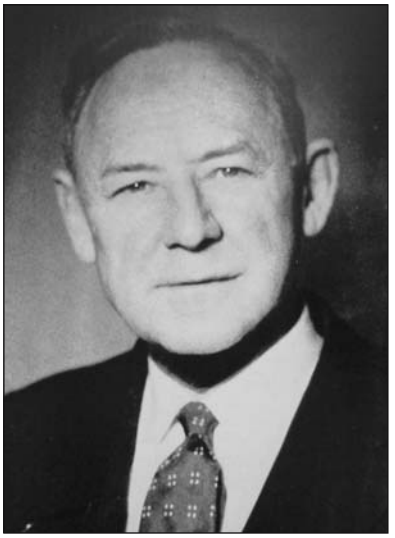

Paul Crenshaw COLONNA

1892–1966

Paul Crenshaw Colonna was born in Norfolk, Virginia, on December 19, 1892, the son of Samuel and Alice Colonna. His primary education was obtained in the public schools of Richmond, Virginia. He was granted his AB degree at Randolph-Macon College in 1915 and his MD at Johns Hopkins in 1920. After completing an internship at St. Elizabeth's Hospital in Richmond, he began in 1921 a 16-year association with the Hospital for the Ruptured and Crippled in New York, where he served successively as a resident and as assistant and associate chief of clinic. At the same time he started his academic association at the College of Physicians and Surgeons of Columbia University where he was Clinical Professor of Orthopedic Surgery from 1935 to 1937. In 1937, Dr. Colonna accepted the invitation to become Professor and Chairman of the Department of Orthopedic Surgery at the University of Oklahoma in Oklahoma City. He remained there until 1942, when he went to Philadelphia as Professor and Chairman of the Department of Orthopedic Surgery at the University of Pennsylvania, succeeding Dr. A. Bruce Gill in that chair. On retirement as head of this department in 1958, he established an office one block from the Hospital of the University of Pennsylvania and continued in the practice of his specialty.

As an orthopedic surgeon, Dr. Colonna was widely known for the design of two surgical procedures on the hip joint, one for unreduced congenital dislocation in children, and the other for ununited fracture of the femoral neck. In 1932, he published a description of his operation for unreduced congenital dislocation of the hip.[1] Preliminary treatment included a thorough stretching of the affected hip under an anesthetic and subcutaneous tenotomy of the adductor muscles. Then a long plaster spica was applied to the unaffected side and moleskin traction of 25–35 pounds was maintained on the dislocated side. Several weeks later, when the head had been reduced to the level of the acetabulum, the child was prepared for operation. The greater trochanter with its attached muscles was chiseled through and turned upward, and the capsule covering the head was rather easily dissected free from the surrounding tissues. When the isthmus of the capsule was reached, it was cut through and the head of the bone inspected through this aperture. The aperture in the capsule was then closed. With the Doyen reamer, a capacious acetabulum was formed as near the original site as the preliminary traction had made possible. The head of the bone with its covering of capsule was then placed in the newly formed acetabulum and, with the limb in abduction, the greater trochanter was sutured back into place.

Subsequent reports of this operation included a careful follow-up of the first patients on whom he had performed this procedure. Many of the early patients were seen 30 and 35 years following their operation and were always available for presentation at medical meetings.

In 1935, he described in *The Journal of Bone and Joint Surgery*[2] his operation for nonunion following fracture of the femoral neck, sometimes called the trochanteric reconstruction operation, which "consists essentially of severing the muscles attached to the greater trochanter very close to their insertion to the bone, care being taken to leave a fibromuscular layer covering the region of the greater trochanter. The capsule is then divided close to the femur and the loose head fragment is removed. After the greater trochanter has been placed deeply within the acetabulum, the abductor muscles are then transplanted downward as far as they will reach and are attached by a bony trough to the lateral surface of the shaft of the femur."

His specific interests in his surgical specialty therefore concerned patients ranging from the very young to the elderly and he was as much at home on the children's ward as he was at the bedside of an 80-year-old patient. Both of these operations were developed and subsequently

described with definite boundaries as to their indications and contraindications. Dr. Colonna recognized these and frequently pointed out that the best results could not be achieved if these carefully constructed guidelines were ignored.

Dr. Colonna was an orthopedic surgeon's orthopedic surgeon. Most of his patients in his later years, both the young child with a congenital hip problem and the elderly patient with a hip reconstruction problem, had had several operations and were referred to him because of previous failures. He spent no time considering what the treatment might have been, but studied the problem as it was presented to him and then wasted no time in pushing forward to its solution. He continuously taught both by his words and by his actions that the surgical procedure was only a link, albeit an important one, in the long chain of related steps in therapy that led finally to useful function of the part. He was a skilled surgeon who, with little loss of motion or time, got down to the hip and the work to be done even though the anatomical parts were grossly distorted from the original process or by previous attempts to correct them. His assistants quickly realized that this dexterity was due to the fact that not only had he been through this exercise many times before, but also that he had reviewed this particular problem in detail and he knew just what he wanted to do step by step. Although his manual skill was admired by his assistants and associates, he never emphasized this, nor did he spend much time discussing this phase of reconstruction, either in formal presentations before orthopedic groups throughout the country, or in his bedside teaching with house staff and medical students. His rounds of ward and private patients alike were never hurried. He was interested in details of preoperative and postoperative management and it was here that he was most effective in his teaching. Surgical experiences were never dramatized but were always properly placed in relation to an entire program of physical, mental, and economic rehabilitation.

Dr. Colonna was a member of a number of medical societies, local, national, and international. In 1955, he was elected President of the American Orthopedic Association and presided at the annual meeting of that association when it met that year in Banff. He was a founding member of the Orthopedic Research Society and remained vitally interested in its proceedings.

As a teacher, Dr. Colonna stressed the broad, general principles upon which all surgery is founded. At the same time in his practice and in his teaching, he would illustrate the endless variety of details these principles could include. His Presidential Address to the American Orthopedic Association emphasized the close relationship of orthopedic surgery to the biological sciences in contrast to the mechanical sciences. In it he stated that "the rehabilitation of our patients will be improved . . . by the realization that the surgeon can assist the natural powers of recuperation but cannot replace them." Dr. Colonna believed in this principle and demonstrated it daily in his work.

Dr. Colonna permitted himself no time to work hard at a hobby. He loved the seashore and in the rather infrequent off-duty hours, he and his wife, Rita, spent time there.

Paul Crenshaw Colonna died in Philadelphia, Pennsylvania, on Tuesday, June 7, 1966. Besides his wife, Rita, two daughters, Alice and Mary, survive him. Although his professional activities had been lightened to a small degree for the past several years, on Monday, June 6, he had made his usual rounds at the Hospital of the University of Pennsylvania, visited patients on whom he had recently operated, and exchanged his usual greetings with other members of the hospital staff. Death came suddenly less than 24 hours later. Thus, for 45 years, to the last day of his life, he devoted his full energy to what he loved, the practice of orthopedic surgery.

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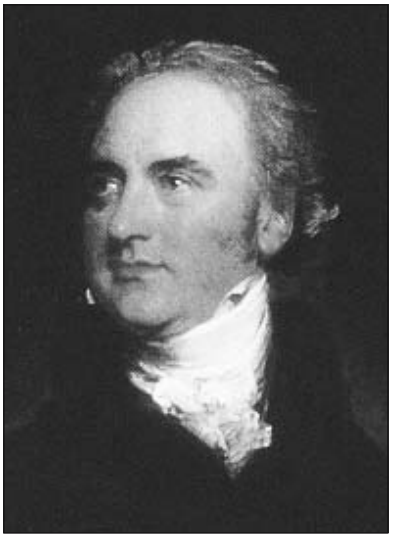


Sir Astley Paston COOPER

1768–1841

Sir Astley Paston Cooper was the leading surgeon of London in his day. He was probably John Hunter's most prominent pupil and Guy's Hospital's most popular personage. Although Paré described fractures of the hip, his observations other than diagnostic were not contributive. Cooper not only described the fracture but added the classic discussion of its major problem, the circulation of the femoral head and the circumstance of what subsequently became known as its vascular necrosis.

With subsequent editions of his long-lasting book, *A Treatise on Dislocations and Fractures*, Cooper would add notes from his very popular lectures at Guy's.

Frederic Jay COTTON

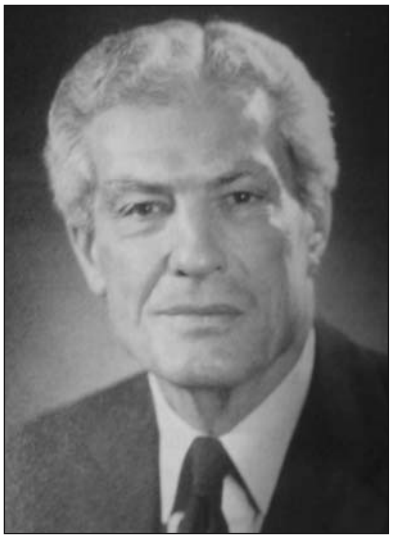
1869–1938

Frederic Jay Cotton was born in Newport, Rhode Island, and educated at Harvard. After receiving his Doctor of Medicine degree in 1894, he studied bacteriology in New York and spent 2 years in the medical and surgical clinics in Vienna. His career was spent in Boston where he was a professor of surgery at Tufts College Medical School.

He served as a surgeon during the Spanish–American War, and during World War I was Chief of Surgery at Walter Reed Army Hospital. His major interest throughout his career was in injuries of the musculoskeletal system. He actively collaborated with Charles L. Scudder in the publication of Scudder's book on fractures, published in 1900. He published his own book on dislocations and fractures in 1910. An accomplished artist, Cotton supplied many illustrations for his book. He promoted the use of impaction in the treatment of fractures of the neck of the femur in both the nonoperative and operative methods. The publication of his paper on the use of fascia lata for the reconstruction of ligamentous injuries of the knee in 1934, only 4 years before his death, indicates that his interest in musculoskeletal injuries never waned.

As a founding member of the American College of Surgeons, a member of the first Board of Regents of the College, and founding member of the Committee on Fractures, later the Committee on Trauma, of the College, he had an important influence on the standards of treatment

of fractures in the United States during the early decades of this century.



Mark Bingham COVENTRY

1913–1994

Mark Bingham Coventry was born in Duluth, Minnesota, on March 30, 1913. His father, William A. Coventry, a general surgeon, was one of the founders of the Duluth Clinic. His mother, a schoolteacher, died in the influenza epidemic in 1918, so he was raised by his father and his stepmother, Anna.

He attended public school in Duluth and college at the University of Michigan, where he played varsity hockey. He graduated from the University of Michigan Medical School, as had his father and his older brother.

In 1938, after having completed his internship at the University Hospital in Ann Arbor, he came to the Mayo Clinic in Rochester as a Fellow in General Surgery. He transferred to the Department of Orthopedic Surgery after 1 year.

Shortly after Pearl Harbor, he joined the United States Navy and served both at sea and ashore in Guadalcanal, Peleliu, New Guinea and the Philippines. He returned to the staff of the Mayo Clinic in 1946. In 1958, he became Professor of Orthopedic Surgery, and he was Department Chairman from 1963 to 1974. He was also a member of the Board of Governors of the Mayo Clinic for 5 years.

Mark had a wide-ranging interest in all facets of orthopedics, with particular emphasis on bone tumors and arthritis of the hip and knee. The author of more than 250 papers, he popularized and wrote extensively on proximal tibial osteotomy. He performed the first Food and Drug Administration approved total hip arthroplasty with cement in the United States, in 1969.

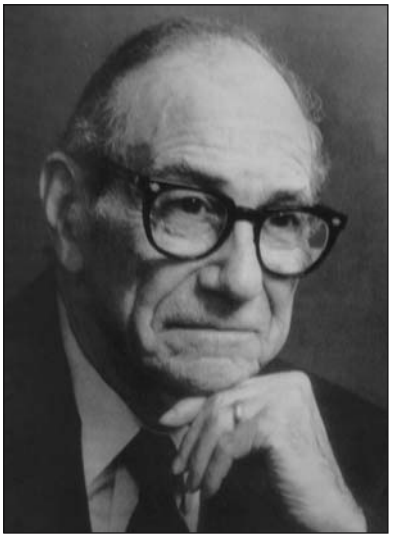
One of his major interests was the nurturing of orthopedic surgery in the Third World. As a member of Orthopedics Overseas and Care-Medico, he served in Tunisia, Indonesia, Saint Lucia, and Afghanistan and taught in the medical school in Honduras.

He served on the board of trustees of *The Journal of Bone and Joint Surgery* for longer than any other individual, including as its chairman. He was editor of the *Year Book of Orthopedics*; president of the American Orthopedic Association, the Hip Society, the International Hip Society, and the Orthopedic Research and Education Foundation; and an honorary member of the British Orthopedic Association and the Canadian Orthopedic Association.

Despite all of his accomplishments, Mark still found time to enjoy life away from his practice. He was a gourmet chef, a connoisseur of fine wine, a master gardener, a skier, a fine wing shot, a horseman, and a bicyclist. He loved the outdoors and enjoyed canoeing, hiking, and swimming with his family at his summer home in northern Wisconsin.

Mark's most notable attributes were his intellectual curiosity, his humanitarianism, his kindness, and his professionalism. He served as a mentor and role model for two generations of residents who honored him by forming the Coventry Society, a travel group. In addition, his colleagues at the Mayo Clinic present the Coventry Award annually to the outstanding clinical research in orthopedic surgery by a Mayo resident.

Mark Bingham Coventry died on July 13, 1994 at his home in Rochester, Minnesota, after a long battle with prostate cancer. He was 81 years old. He lived his last few months with the dignity, discipline, and equanimity that were typical of him. Mark is survived by three daughters. His wife, Elizabeth "Betty" Servis Coventry, died in 1989.



Andrew Hoyt CRENSHAW

1920–1991

Andrew Hoyt Crenshaw was born in Martin, Georgia, in 1920. He received his BS degree from Presbyterian College in Clinton, South Carolina, and his MD degree from Emory University in Atlanta. His medical training was interrupted by service in the United States Army Medical Corps, from July 1945 through January 1947. After completion of an orthopedic residency at the Campbell Foundation, he joined the staff of the Campbell Clinic in 1951.

Although Dr. Crenshaw's skill as a surgeon and acumen as a diagnostician were quickly evident, his partners soon discovered another talent. After contributing two chapters to the third edition of *Campbell's Operative Orthopedics* in 1956, he became the editor of the fourth edition in 1963. He served in that capacity for five editions of this voluminous text, completing work on the eighth edition only days before his death. A colleague described his work as follows: "Hoyt reads what I've written, then writes what I meant to say."

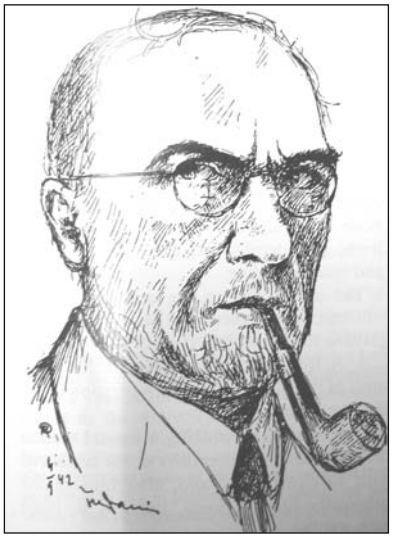
His editorial expertise was not confined to *Campbell's Operative Orthopedics*, however. Dr. Crenshaw was an associate editor of *The Journal of Bone and Joint Surgery* from 1963 through 1972, as well as of the *AAOS Bulletin* and the *Journal of Continuing Education in Orthopedics*. He contributed numerous articles to the orthopedic literature, many of them now classics.

Dr. Crenshaw gave fully of his time and talents to orthopedic specialty societies. Among his duties, he served as librarian–historian of the American Academy of Orthopedic Surgeons, on the executive and membership committees and the editorial board of the American Orthopedic Association, and on the task force on questions of the American Board of Orthopedic Surgery. In addition to his membership in local and regional orthopedic societies, he belonged to the Interurban Club and the Société Internationale de Chirurgie Orthopédique et de Traumatologie (SICOT). He also was among the 1959 ABC Traveling Fellows.

His ability to see the essence of a problem, a situation, or an issue quickly and to express it succinctly and often humorously made him a favorite with patients and residents alike. His humility in the midst of national renown endeared him to all. Always a gentleman, he was considerate and kind to even the youngest of medical students, and many young residents had their egos boosted by being asked their opinions by "The Editor of Campbell's."

During his busy professional life, tireless support and a safe haven were provided by his wife, Ruth. His last 2 years of retirement allowed him to spend time with her; his children, Andrew, Tom, Sarah, and Jeannie; and his five grandchildren. He finally had time for mowing the lawn and walking with McGregor, his Scottish terrier and constant companion. That he chose to spend a large part of retirement editing the most recent edition of "The Book" reflects his commitment to duty and excellence.

Throughout his 37 years as an orthopedic surgeon, Dr. A.H. Crenshaw personified the old-fashioned values of duty, loyalty, integrity, and excellence. His death on October 18, 1991, left us with one fewer of the "giants" on whose experience and expertise our specialty rests.



Robert DANIS

1880–1962

Robert Danis was born in a small town in the Belgian province of Tournai. His father was an army veterinarian. After classical studies at Anvers and Louvain, he studied medicine at the University of Brussels, from which he received his degree in 1904. He became associated with Antoine Depage and moved up through the system, becoming professor of operative surgery and gynecology in 1919 and succeeding his chief as professor of clinical surgery in 1925. He was a surgeon with very broad interests.

He made significant contributions to the field of local and regional anesthesia, especially sacral blocks. His interest in vascular surgery led to the invention of a clamp to be used for portocaval shunts. He studied the use of vein grafts to reconstruct defects in arteries and bile ducts. Beginning in 1925, his work gradually focused on traumatology and especially on the operative treatment of fractures.

Danis pursued his interest in the laboratory as well as the clinic. He studied the biology of fracture healing and demonstrated that primary union (soudure autogene) of fractures could occur without callus formation when the fracture fragments were reduced accurately and held in position with compression. To obtain these conditions, he designed a complete armamentarium of compression plates (coapteurs) and screws. The results of his clinical and laboratory experience were embodied in his book *Theorie et pratique de l'osteosynthese*, published in 1949. On the basis of this work, he can be considered to be one of the originators of the technique of compression plating.

William DARRACH

1876–1948

Dr. William Darrach was born in Germantown, Pennsylvania, the son of William and Edith Romeyn Aertson Darrach. He attended Hill School and was graduated from Yale University in 1897. Following his graduation from the College of Physicians and Surgeons in 1901, he served an internship at the Presbyterian Hospital. From 1903 to 1909, he served as demonstrator in the Department of Anatomy. In 1913, he was appointed Associate Attending Surgeon at the Presbyterian Hospital, and continued to serve there in varying capacities until his death.

During World War I, Dr. Darrach went overseas with Base Hospital 2, serving as Chief of Surgical Service, later as Consulting Surgeon for the First Army, and, still later, for the Third Army. He was discharged, after serving with distinction, with the rank of Colonel.

In World War II, Dr. Darrach served as Civilian Consultant to the Surgeon General. His final service to the government was in the post of Director of Education and Research at the Kingsbridge Veterans Administration Hospital.

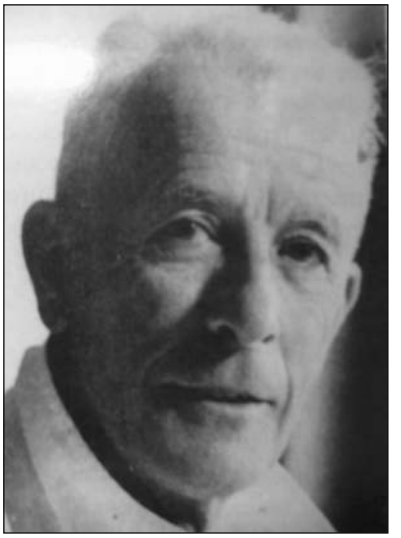
Between the wars, Dr. Darrach served for 11 years as Dean of the College of Physicians

and Surgeons. After his retirement as Dean, following the completion of the great Columbia–Presbyterian Medical Center, which towers over Washington Heights, his colleagues attested in formal resolution that he, above all others, had been responsible for the successful alliance between the Presbyterian Hospital and other hospitals and the School of Medicine, resulting in the Medical Center.

Dr. Darrach then returned from administration to his real abiding interest—surgery—and established the fracture service. To the mending of broken bones, he brought his keen analytical mind, his mature judgment, and rare skill. His interest in his younger colleagues and pupils was boundless. Many of them caught some of the fire of his inspiration, and, through those who did, his influence will continue.

Dr. Darrach was distinguished in every stage of his career, and his pre-eminence was recognized by countless honors. He served as President of the Association of the American Medical Colleges, of the American Surgical Association, and of the Society of Clinical Surgery. He was a Regent of the American College of Surgeons. He was an honorary member of the American Academy of Orthopedic Surgeons. He was a trustee of Vassar College. He received many honorary degrees from universities at home and abroad. He wrote numerous articles, and always spoke clearly, intelligently, and with a delightful sense of humor. He was a devoted, radiant, and generous person, loved by countless friends, among whom were his many patients and associates.

Dr. William Darrach died on May 21, 1948, after a brief illness.



Robert Merle D'AUBIGNÉ

1900–1989

Robert Merle d'Aubigné was born in 1900 at Neuilly, just upstream from Paris, into a family with a long Huguenot tradition; his father was the local pastor. Holidays in the countryside gave him practice at skiing and boating, while many family contacts across the Channel led to a mastery of spoken English. Some remarkable wartime tutors ensured a sound classical education. Robert just missed active service in 1918 but soon turned to adventurous mountaineering, which eventually made him an accomplished alpinist. The personal experience of a fractured femur treated by traction probably accounted for his enthusiasm for Küntscher nailing when that technique duly arrived in France.

Early on in the rigorous training in general surgery of that period, Robert found that his professors paid scant personal attention to fractures and other lesions of the limbs. It was only in his fourth year as a junior resident aged 27 that he came under the influence of a surgeon, Paul Lecène, with a deep interest in skeletal disorders. Two years later Lecène proposed coauthorship of a work on elective orthopedic surgery but almost at once died tragically from typhoid fever. The next year Robert made a long pilgrimage to Böhler in Vienna and then another to Putti in Bologna. These visits were the main source of a recurrent dream of such treatment equally well organized all over France. Meanwhile he had to concentrate hard on general surgery in order to

attain the coveted rank of *chirurgien des hôpitaux* in 1936.

The declaration of war in 1939 and the long retreat of 1940 found Merle d'Aubigné as Captain in charge of a mobile ambulance unit of 100 men and eight Red Cross nurses. During the occupation he worked in Paris under the double strain of belonging to the resistance and of protecting his first wife, Bibka, from deportation. When at last Paris was liberated, he was promoted Colonel in charge of the medical services of the French Forces of the Interior and given an office at the Ministry of War. This was a golden opportunity. With the aid of his old friend Jean Cauchoix, he assembled a small but strong team ready to open a *Centre de Chirurgie Réparatrice* in a private hospital requisitioned by the Army. Before actually doing so, he obtained leave to fly to London—where V2 bombs were still falling—in order to visit British and American hospitals and glean the advances made during the war. This was a huge success. Wherever Robert went, his warm personality, thirst for knowledge and fluent English guaranteed him a hearty welcome. Forty years later, he recalled with special gratitude Watson-Jones on theater technique, Seddon on peripheral nerves, McIndoe on plastic surgery, Guttman on paraplegia and Frank Stinchfield on rehabilitation.

The small center was soon inundated with wounded from various sources and the experience gained was recorded in two slim volumes. Fortunately the much larger Hôpital Foch became available and the expanded service attracted eager young surgeons, among them Michel Postel, Jacques Ramadier, Robert Meary, Raoul Tubiana, Jean Benassy and Jacques Evrard, each of whom was encouraged to concentrate on a special subject.

All too quickly the approaching return of Hôpital Foch to its pre-war owners foretold an end of the center. To Robert the only hope of retaining his team was to win the chair in adult orthopedics becoming vacant in 1948 at Hôpital Cochin, even though the accommodation in its Pavillon Lister was quite meagre. He won by a very close margin. Around this time—1950—ample state funds became available for the planning and construction of a modern center, which in the event took 10 long years.

Over this period of restraint, Robert gave enthusiastic support to the rapidly expanding French national society and to its renamed journal *La Revue Française d'Orthopédie*. He also travelled widely, especially in Great Britain and North America, always seeking advances, often lecturing and generally acting as a roving orthopedic ambassador for France.

The splendid new *Pavillon Ollier*, tactfully so named, was occupied early in 1960. Not only did it provide every facility for practice and for teaching, but also accommodation for an excellent center of documentation (Meary's brainchild) and for the secretariats of the Society, its library and its journal. Robert became full-time at Cochin and the transformed service ran smoothly from the start. His own main surgical interests were in the hip, leg lengthening and bone tumors, but by virtue of frequent consultation he kept well informed on all the special subjects of his large team.

In 1963 the International Society invited Robert to organize the Congress of Paris in 1966. His brilliant planning and the use of the brand-new building of the Law Faculty made the occasion quite memorable. Then in 1969, as President of the Society, he had the prospect of a congress in Tel Aviv in the autumn of 1972. That very summer the terrorist assassinations at the Olympic Games caused many members to plead either for cancellation or for a change in venue. Courageous as ever, he would have none of it: the congress went ahead as planned, and without incident.

The year 1970 saw Robert retire from his chair, from all surgical practice and from skiing. His dreams of 1930 had been fully realized. Services to the army and the resistance had won him many decorations, learned societies had honored him. In Great Britain, it was Honorary Fellowship of the Royal Colleges of both England and Edinburgh that gave him the most acute pleasure. In France a supreme distinction was his election to *Membre de I'Institut.*

Retirement for Robert was a blend of sheer pleasure out of doors and brain work indoors. He and his second wife Christine enjoyed two homes, one near Paris and another in Alicante: the distance between seemed not to matter. She had given him calm assistance with operations during the hurried retreat of 1940 and again years later at Cochin; now it was companionship, whether sailing, tending their orange grove or entertaining.

The brain work was mainly literary. Robert already had six standard works to his part or whole credit, with two more to complete. In 1977 he proudly fathered *International Orthopedics*,

the journal of SICOT. Then he encouraged the board of La Revue to produce an edition in English. He also wrote two autobiographies, one mainly clinical, the other an illuminating book in French written in the style of a good-natured raconteur.[1,2]

The last few years were clouded by failing strength, which gradually brought a remarkably active life to a peaceful close on October 11, 1989 at Achères-la-Forêt.

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Fritz De QUERVAIN

1868–1940

De Quervain was a most distinguished general surgeon and succeeded Köcher as Professor of Surgery at Berne University. He was born at Sion in the Valais Canton of Switzerland, where his father was pastor. After studying at Berne, he settled as a surgeon in the watch-making district of La Chaux-de-Fonds. After 8 years he returned to the university as reader in surgery under Köcher, becoming involved in the enormous program of clinical and scientific work on goiter. He was responsible for the introduction of iodized table salt. His interests were very wide and he made contributions to most branches of surgery.

Grey Turner visited his clinic in 1908 and was vividly struck by his resource and imagination.

Jacques-Malthieu DELPECH

1777–1832

Jacques-Malthieu Delpech was born in Toulouse, where he began his medical studies at the age of 12 years under the aegis of Alexis Latrey, the uncle and first teacher of J. Dominique Larrey.[6–8] At the age of 15 years he enlisted as a surgical dresser in the French Army, in which he served for 5 years. Returning to his studies, he was awarded a medical degree by the faculty of Montpellier in 1801. He continued his studies in Paris, where he divided his life into two parts: at night he worked to educate himself, and during the day he tutored other students to earn money to live. His particular interests at this time were wound healing and scar tissue. In 1812, as the result of a competitive examination, i.e., *concours*, Delpech was made Professor of Surgery and Chief Surgeon of the Hôpital St. Eloi in Montpellier.

Delpech's first important publication[1] dealt with hospital gangrene, *pourriture d'Hôpital*, a condition with which he had had substantial experience both in the army and in civilian practice. He was one of the first surgeons to point out the importance of direct contact with pus, dirty dress-

ings, and unclean hands in the transfer of infection.[9] It was his early studies of wound healing and infection that led directly to his next contribution, the introduction of subcutaneous tenotomy.

As a result of his study of Scarpa's classic work on club feet and of his own clinical experience, he concluded that by neutralizing the deforming force of the calf muscles by division of the Achilles tendon, correction could be obtained. Although open tenotomy had been performed previously, it was Delpech who perfected the subcutaneous operation. He performed the procedure for the first time on May 9, 1816.[2,3] Bouvier, who examined the patient in 1836, observed that he had a very satisfactory result. Delpech did not follow up this first success because of opposition to the operation in Montpellier and Paris. The procedure lay dormant until it was reintroduced by Stromeyer in 1831. Delpech was an innovative surgeon with wide interests in addition to orthopedics, as evidenced by his report of a rhinoplasty.[4]

In 1828, Delpech published *De l'orthomorphie*,[5] a comprehensive work concerning deformities and diseases of bones and joints. These two small volumes and the accompanying atlas volume, with its unique and beautiful illustrations, mark the beginning of the modern era of orthopedics.[8] The description of the "back school" in Montpellier is but one of its many interesting features. Delpech was influenced strongly by the British physicians Edward H. Harrison, John S. Shaw, and William Tilleard Ward, who had written about the treatment of back deformities. He had the distinct advantage, however, of being the first to establish the true nature of Pott's disease, contending that *mal du Pott* should be called *affection tuberculeuse des vertèbres*. As a result, he was able to discriminate more or less successfully between tuberculous spondylitis and spinal deformities due to nontuberculous conditions, e.g., scoliosis and poliomyelitis. It is for this latter group of patients that the institute in Montpellier was founded.

In 1825, Delpech[6] purchased 3½ acres of land in the countryside outside of Montpellier for the construction of his orthopedic institute. In the institute he proposed to apply, for the first time on a grand scale, exercises and gymnastics in the treatment of spinal deformities. The building contained facilities for housing and caring for patients as well as an enclosed gymnasium. The garden extending beyond the building was a maze of paths that intersected at various exercise areas. Emphasis was placed on outdoor activities in the fresh country air. To ensure that the exercises and gymnastics would be performed freely but with proper decorum, Delpech designed special costumes for the young men and women. The exercises consisted primarily of balancing and climbing. Patients remained as residents in the program for 1 or 2 years. Unfortunately, we do not know whether the program achieved its goals.

On October 29, 1832, Delpech[7] was returning to the institute from the city when he was shot by a deranged patient on whom he had operated for a hydrocele. The bullet passed through his chest, destroying the arch of the aorta, and he died instantly. The coachman, supporting Delpech in his arms, was also fatally shot. The horses galloped off with the carriage and delivered the bodies to the institute. All that remains of Delpech's institute are the charming lithographs in the atlas, depicting cheerful young people engaged in therapeutic exercises in a sylvan setting.

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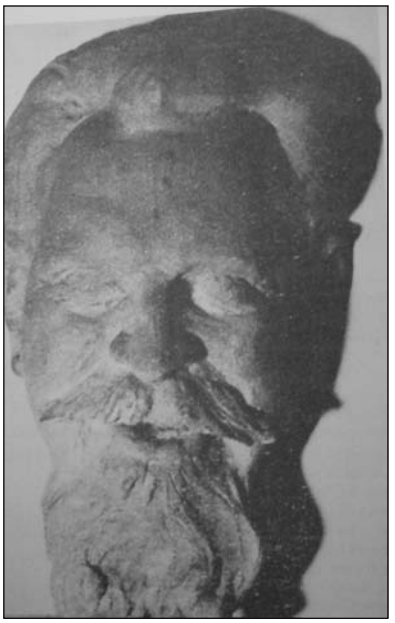

Étienne DESTOT

1864–1918

Étienne Destot was born in Dijon and educated in Lyon, where in February 1896, less than 2 months after the announcement of the discovery of the x-ray by Rontgen, he was already making radiographs of patients in the Hôtel Dieu. He had great enthusiasm for this new method and devoted a major share of his time to developing the technique and its application to clinical medicine. His work led to the publication of three monographs, the first dealing with injuries of the wrist,[2] the second with injuries of the elbow in children,[3] and the third with injuries of the foot and ankle.[4] Because of severe radiation damage to his hands, he was forced to give up his position as the radiologist at the Hôtel Dieu in 1913. In addition to his work in radiology, he was also interested in medical applications of electricity and neurology. In the course of his work he made many contributions to orthopedics. He was something of a talented eccentric, a sculptor, and the designer of an aerodynamic car with an aluminum body! He was sent to the western front as a medical officer in World War I, and died as a result of pneumonia in 1918.[1]

During his life, Destot continued to revise his work. An English translation of the most recent manuscript of his work on injuries of the wrist was made by F.R.B. Atkinson of Edinburgh and published in 1926.[5] It is clear that Destot interpreted his radiographs only after a careful correlation of the clinical and anatomic features of the case, an approach that should be more widely used today.

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Naughton DUNN

1884–1939

Mr. Dunn was born in Aberdeen in 1884 and was educated in the grammar school and university of that city, graduating in medicine in 1909. His interest in orthopedic surgery began with his appointment as house surgeon to the late Sir Robert Jones at the Royal Southern Hospital, Liverpool, some years before the Great War. From this association there developed between

the teacher and pupil a firm friendship, which endured until the former's death.

Following his training in orthopedic surgery, he transferred to Birmingham, where he became associated with the Birmingham Cripples' Union, and through his instrumentality the organizations for the treatment of the cripple in the Birmingham district were gradually joined together, and, in place of a number of scattered societies, whose work necessarily overlapped, the present Royal Cripples' Hospital was established.

Wider recognition of the value and originality of his work came to him through his efforts during and after the Great War. He was one of that small band of British surgeons who were called on by Sir Robert Jones to carry out preventive and corrective surgery in the British Army, a task that they were able to accomplish only through the generous help of their American colleagues.

Returning to Birmingham after the war, he continued his work at the Royal Cripples' Hospital and at the Robert Jones and Agnes Hunt Orthopedic Hospital in Oswestry, an institution in which he played a particularly vital part.

Mr. Dunn received many honors, but of them all probably the one he treasured most was the honorary LLD, which was conferred upon him by his own University of Aberdeen in 1937. He was connected with many hospitals in the Midlands, both in an active and in an advisory capacity, and he held the very important post of Lecturer in Orthopedic Surgery at the University of Birmingham. He was one of the original members of the British Orthopedic Association and for a number of years served on the executive committee. He also held the office of President of the Orthopedic Section of the Royal Society of Medicine and was a corresponding member of the American, French, and Australian Orthopedic Associations.

Although Mr. Dunn's contributions to the literature of orthopedic surgery were not as numerous as one would have expected from a surgeon of his standing, what they lacked in quantity was compensated by their extreme soundness and breadth of vision. They were typical of the man—inherently sound, sane, and thoughtful—and characterized by an underlying care for the patient, which was always his first anxiety. His most notable contribution, which brought him an international reputation, was his work on the operative treatment of paralytic deformities of the foot.

The early death of Mr. Naughton Dunn, which occurred on November 19, 1939, after a long, distressing illness, has deprived British orthopedic surgery of one of its outstanding figures and the British Orthopedic Association of its President, a post that he held during 1938 and 1939.

Guillaume DUPUYTREN

1777–1835

Guillaume Dupuytren was born in Pierre-Buffière near Limoges in 1777. There had previously been several surgeons in the Dupuytren family. In 1719, a surgeon Michel Dupuytren lived at Pierre-Buffière, running the tobacco shop at the same time. François Dupuytren, grandfather of Guillaume, drowned while returning from visiting a sick patient. Two brothers of François, Leonard and Jacques, were also surgeons, so that it is not surprising that Guillaume selected surgery, although his own father was a lawyer. Guillaume was sent to Paris for his schooling in a Jesuit institution named after its founder, Jean de la Marche. It was during this period, from the dawn of the Revolution in 1789 through the bloody Reign of Terror in 1793–1794, that young Dupuytren was a student in Paris. The changes that the Revolution wrought were to affect deeply the shape of his life. Now the road to success was open to the talented, without distinction of birth or fortune.

Once at home again in 1794, Guillaume wanted to join the army. His father, however, insisted that, in the family tradition, Guillaume become a

surgeon. As a first step in his training, he was enrolled in the medical-surgical courses in Limoges, but after a few months, Dupuytren set out for Paris, where he remained for the rest of his life.

Dupuytren's medical studies coincided with the period of Directoire, from 1795 to 1799. The Terror was over, there was money to be made in manufacture and commerce, glory to be grasped in the battlefields. This was also a period of dissipation and pleasure, but Dupuytren had given his life over completely to his studies of anatomy, experimental physiology and pathological anatomy. He became *Chef des Travaux Anatomiques* (Director of Anatomical Studies) in the Medical School in 1801 and the Council of the Ecole de Médecine formally requested that he be exempt from the obligatory military duty.

The reign of Napoleon (1801–1814) had been for Dupuytren a period of tough "open competition"; each post won gave rise to bitter rivalry. The Revolution had released a flood of energy and in this brilliant era of French medicine, the rising young men were Bichat, Broussais, Larrey, Roux, Laennec: all formidable rivals for Dupuytren.

Dupuytren became, at just under 25 years of age, *Chirurgzen de deuxième classe* at the Hôtel Dieu in 1802. The Hôtel Dieu was the most important hospital in Paris. The chief surgeon was Phillippe Joseph Pelletan, with whom Dupuytren had unceasing conflicts, which reduced his surgical activity. He continued his own researches and animal experimentation at the school of veterinary medicine at Maisons-Alfort (which still exists). Here, Dupuytren worked closely with Alexis Dupuy for many years. Dupuytren proved that the spleen could safely be removed and he published, with Dupuy, reports on the nervous, cardiac, circulatory, and cerebral systems and on the role of the nerves in respiration. In 1812 he was Professor of Operative Medicine at the Faculté de Médecine of Paris.

In 1815, Pelletan was 68 years old and wanted to "organize" his succession at the Hôtel Dieu. He put forward his son Gabriel, who was a surgeon in the Imperial Guard, for the appointment as clinical assistant, but with the passing of the Napoleonic era, Pelletan's position was weakened. In September 1815, the Minister of the Interior of Louis XVIII asked the Conseil des Hôpitaux to submit a list of five candidates for the post of *Chirurgien en chef* at the Hôtel Dieu. Dupuytren's name was third on the list, after Boyer and Dubois, his elders by some 20 years. These two were passed over because of their close relationship with Napoleon, and Guillaume Dupuytren became *Chirurgien en chef* at the Hôtel Dieu at just under 38 years of age. For 20 years he retained a place of pre-eminence in the medical history of his time, sometimes called the Age of Dupuytren. This period corresponds with the restoration of the monarchy in France after the Revolution, and the Empire, with the return of the brother of Louis XVI, King Louis XVIII. Dupuytren had been named surgeon of King Louis XVIII in 1823 and the king conferred on him the hereditary title of baron. The king died in 1824 and was succeeded by his younger brother, Charles X; thus Dupuytren immediately became chief surgeon of the new king.

Dupuytren was admired as a brilliant surgeon and a great teacher, but his ambition and his aggressiveness had aroused many envies and enemies, hence the malicious tone of so many contemporary writings. For Lisfranc, Dupuytren was "the brigand of the Hôtel Dieu"; for Percy "the greatest of surgeons and the least of men." However, so high was Dupuytren's status that his obituary in the London *Lancet* expressed the general view: "Regarding surgery in the true sense, we hesitate not to place the late Baron Dupuytren at the head of European surgery" (*Lancet*, February 21, 1835).

Dupuytren's powers of diagnosis were legendary and the list of his innovations is too long for enumeration. For example, in the field of orthopedics, he described in 1822 the congenital dislocation of the hip, which he distinguished from accidental dislocations. He gave the original description of fractures of the lower end of the fibula, for which he devised a splint. He described a distortion of the wrist, now called Madelung's deformity. He was also the first to perform a resection of the lower jaw, and the first to excise the neck of the uterus for cancer. He described post-traumatic shock. In his thesis on "lithotomy" (1812) he gave an anatomical description of the perineal region, layer by layer, which is still a classic. He reported a considerable number of self-mutilations of the genitalia and took account of their determining factors: "self-punishment, guilt, jealousy, remorse, expiation, any of these may be responsible."

In 1832, he gave his classification of burns arranged in six categories based upon the depth of the burn. He even noticed the presence of ulceration of the gastrointestinal tract in severely burned patients 10 years before Curling, to whom

that insight is now credited. For Garrison (in 1966), his most enduring title to modern fame is in the field of surgical pathology and perhaps above all for his diagnosis and treatment of contracture of the fingers. Hannah Barsky (1984) wrote a comprehensive portrait of Dupuytren in which she describes his daily activity when he was chief surgeon at the Hôtel Dieu, which is summarized here:

> For twenty years, day in, day out, the Dupuytren program was all but unvaried. When Marjolin became Dupuytren's adjunct surgeon, Dupuytren told him he was expected to act as substitute when the chief was out of the town or ill, but added "I warn you that I am never away and never ill". There was for Dupuytren no holiday, no vacation. Even Christmas found him at his post.
>
> His hospital arrival came no later than six o'clock in the morning. His arrival would be signaled by the ringing of a bell. Ward round began promptly and might take as long as three hours. Dupuytren proceeded from bed to bed (the four wards of his service held 264 beds).
>
> The daily ward rounds were followed by the daily lectures. Seated in his high-backed green armchair behind a table, he would address as many as five hundred auditors, not only hospital personnel, doctors and students, but professional colleagues and laymen from Paris, from France, from the world beyond. Dupuytren began his clinical lectures in a low voice, which would force his auditors to pay close attention, "His voice was soft and smooth, with not only a clarity of thought but a clarity of diction, which made him, even for foreigners, so easy to follow".

Other well-documented biographies of Dupuytren have been written by Cruveilhier (1841) and Mondor (1945).

The *Leçons Orales* (Dupuytren, 1832) recorded by his associates and promptly translated abroad attest to the method, content, and style of these model clinical lectures.

The hour's lecture over, operations began. Dupuytren valued deliberation over brilliance, safety over sleight of hand. Surgery was an extension, a demonstration of clinical lectures. In 1818, 2,363 patients were admitted to Dupuytren's service and 764 major operations performed, ranging from strangulated hernias, skull fractures, mastectomies, amputations of the upper and lower jaw, artificial anus and malignant tumors, as well as a series of orthopedic and ophthalmological procedures.

His operative records were extraordinarily good. With so many eye-witness accounts as we have of his operations, no error escaped the record. One failure, said Cruveilhier (1841), afflicted Dupuytren more than 20 successes delighted him. It was only his failures to which he was sensitive.

After the operations came the outpatient clinic for free consultations: "For the cold Dupuytren, whom others saw on occasion, was not seen by these indigent patients. All those who worked with him and all who visited his clinics agreed that he showed toward these humble outpatients the same attentiveness and care he showed to the rich and famous who came to him for private consultations."

In all, 5–6 hours had been devoted to the Hôtel Dieu service. The rest of the day would be filled with operations on private patients, medical school duties, supervision of the laboratory, clinical research, and private consultations. Dupuytren's professional day was not yet over with the departure of the last private patient. There was always a return visit to the Hôtel Dieu from 6–7 o'clock to see, once again, the patients on whom he had operated that day and the new admissions. And after that, there was a social life.

On December 5, 1831, at the Hôtel Dieu, Dupuytren described the permanent contracture of the fingers. This lecture was reported verbatim in the *Journal Universel et Hebdomadaire de Médecine et de Chirurgie Pratique* by his assistants, Paillard and Marx (Dupuytren, 1831).

Dupuytren himself wrote very little apart from a huge collection of observations. The lecture notes, religiously recorded by his assistants, Brière de Boismont, Paillard and Marx, were published in the *Leçons Orales de Clinique Chirurgzcale faites à l'Hôtel-Dieu de Paris par Monsieur le Baron Dupuytren*. They began in 1832 and filled five volumes. Dupuytren died in November 1835. "La Rétraction Permanente des Doigts," when it was published as the first article of the first edition of the *Leçons Orales* in 1832, was considered a completely unknown pathology. Later, Dupuytren's assistants and Dupuytren himself discovered that this condition had already been mentioned by Astley Cooper, and the "Leçon sur la Rétraction Permanente des Doigts" was relegated to article XI of volume 4 of the second edition, which appeared in 1839, after Dupuytren's death.

On June 12, 1831, Dupuytren operated on the right hand of M.L., the wine merchant who suffered from a progressive contraction of the ring and little fingers.

At 58 years of age, Dupuytre of developed pleurisy and died in a few days, while Cruveilhier, Bouillaud and Broussais were debating whether to drain his empyema. In Dupuytren's opinion it was "better to die of the disease than of the operation." On the day of his funeral, colleagues and scholars came from all over the country. His mortal remains were carried to the Père Lachaise cemetery by his students, who would not delegate this last duty to anyone else.

Herbert Alton DURHAM

1884–1946

Dr. Herbert Alton Durham was Surgeon-in-Chief of the Shriners' Hospital in Shreveport, Louisiana, and an outstanding orthopedic surgeon. He spent his boyhood on a farm in Vermont and received the degrees of AB in 1905 and MD in 1909 from the University of Vermont. After serving a general internship, he became a resident at the New York Orthopedic Hospital. Dr. Russell H. Hibbs was Chief Surgeon of the Hospital at that time, and had just announced his operation for spine fusion. He was impressed by Durham's ability and, at the completion of his residency, sent him abroad on a traveling fellowship. The greater part of the year was spent in England under Sir Robert Jones, and in Austria and Germany.

With the onset of the First World War in 1914, he returned to New York and became a member of the staff of the New York Orthopedic Hospital. When the United States entered the war, Durham was at once commissioned in the army and went to England with the first contingent of orthopedic surgeons under the leadership of Dr. Joel E. Goldthwait. Durham served under Sir Robert in a British military hospital until the end of the war, when he again returned to the New York Orthopedic Hospital, this time as an attending surgeon.

In 1923 he was appointed Surgeon-in-Chief of the Shriners' Hospital at Shreveport, in which capacity he served until his death. He also was attending orthopedic surgeon at the Highland, North Louisiana State, and Tri-State Sanitaria. He was an exceptionally skillful technician and a capable mechanic. These qualities, combined with a sound surgical judgment, accounted for his great success and his high reputation. He devised an apparatus for leg lengthening, an operation for correction of internal rotation of the hip in spastic paralysis, and a technique for transplantation of the biceps femoris.

He was a member of the American Academy of Orthopedic Surgeons and of the American Medical Association, a Fellow of the American College of Surgeons, and a member of the Clinical Orthopedic Society and of the Eastern State Orthopedic Club. He was an out-of-doors man and got his recreation by shooting, riding, and golf.

Dr. Herbert Alton Durham died at Shreveport, Louisiana, on March 13, 1946, at the age of 62. He was survived by his wife, Beatrice Anderson Durham, to whom he was married in England in 1918, and by two children.

Joseph Gichard DUVERNEY

1648–1730

The son of doctor in a small town near Lyon, Joseph Gichard Duverney was educated in Avignon, and like so many ambitious young Frenchmen, sought his fortune in Paris. Fortunately for him, he carried a letter of introduction by which he gained entrance into the scientific community in Paris as an anatomist. In 1669, Duverney was appointed professor of anatomy and surgery at the Jardin du Roi, a medical school developed with the support of Louis XIV. He became one of the first academic surgeons, in the modern sense of the term, because he occupied a tenured chair that allowed him to teach, do research, and carry on a surgical practice. Among his students were members of the French court, including the Dauphin. His research included investigations of the anatomy of the ear, of which he provided the first accurate description, and an important theory of hearing. Duverney was a member of the group of savants gathered around Claude Perrault, who dissected and described a large number of species of animals, including many previously unknown until they were sent from North America by French explorers. His clinical work resulted in his book, *Maladies des Os*, which was published after his death. The first complete description of osteoporosis and the description of what is called Duverney's fracture of the pelvis are found in this work.

Among Duverney's contemporaries was Nicolas Andry. Although we have no evidence of an association, two such prominent members of the Parisian medical scene hardly could have been unacquainted with one another.

Allan Frederick DWYER

1920–1975

Allan Dwyer's father was a general practitioner and his mother a warm, perceptive and capable woman. From Christian Brothers School at Lewisham, he secured a scholarship in medicine and a bursary of residence at St. John's College in the University of Sydney. He graduated with honors in 1942 and became resident medical officer at St. Vincent's Hospital, Sydney.

After war service in Borneo with the Australian Army Medical Corps, he returned to general practice with his father and started as a clinical assistant in the orthopedic department of St. Vincent's Hospital under the supervision of Dr. Dennis J. Glissan. This association was to nurture and develop Allan's life-long enthusiasm for orthopedic surgery.

After obtaining the degrees of FRACS and MS in 1948, he rapidly began to show an outstanding ability for original thought and critical evaluation. His earlier work on the correction of severe deformity of the toes gave excellent results and won him countless grateful patients. His more recent work centerd on such formidable problems as scoliosis, the improvement of the rate of spinal fusion by the use of direct electrical current stimulators, and fusion of the hip after failed arthroplasty. He lived to see his technique of anterior spinal correction become accepted throughout the world as one of the methods of treatment of scoliosis.

He undertook several lecture tours overseas and demonstrated his technique of correction of scoliosis at major centers in Mexico, the United States, Canada, South Africa and Israel. Many orthopedic surgeons visiting Australia came to his hospital, the Mater at North Sydney, to learn his technique.

Despite international acclaim, he remained his modest self, untouched by ostentation; he placed no importance on wealth, social status or patronage. He was most appreciative of the award of the OBE in 1974 and of the L.O. Betts Memorial Medal in 1971 for his original work on scoliosis. His interests outside medicine were diverse: he read widely and took a special interest in politics. For several years, he was state president of the Democratic Labor Party.

He was also a deeply religious man, who, together with his family, found understanding, affection and support within the Catholic Church. During the last months of his illness, he developed an equanimity that gave reassurance and ease to those most dear to him. Allan Dwyer died in Sydney on February 13, 1975, just 9 months after the onset of the illness that caused the tragic end of an inspiring career.

Palmer O. EICHER

1904–1988

Palmer O. Eicher was born on October 31, 1904, in Berne, Indiana, to Mennonite parents whose ancestors came from Bern, Switzerland. He attended Indiana University and received his MD degree in 1932. After internship at Indianapolis General Hospital, he began the practice of general medicine, in 1933, in Decatur, Indiana.

Had it not been for World War II, he probably would not have chosen to enter orthopedic training. He joined the United States Army Medical Corps in 1942 and served a tour of duty in the Pacific theater. On returning to the United States, he requested assignment to an orthopedic service, even if it meant that he would not receive a promotion. He was assigned to the orthopedic service at Cushing General Hospital, Springfield, Massachusetts, of which Nelson Hatt was chief. He greatly admired Dr. Hatt for his innovative ideas. Dr. Eicher attained the rank of Major before being discharged, in 1945.

From 1946 to 1947, Dr. Eicher served a residency with Dr. Earl McBride at the Oklahoma Bone and Joint Hospital, Oklahoma City. In early 1948, strong Hoosier ties brought Dr. Eicher and his family to Indianapolis, where he practiced until his retirement in June 1976.

Surgery of the hip was Dr. Eicher's primary interest, and he became a pioneer in the development of the intramedullary stemmed femoral prosthesis. After a visit with Professor Dr. Med. Maurice E. Müller in Saint Gallen, Switzerland, he became interested in the double-cup type of hip resurfacing arthroplasty that he had seen there. This concept, which he developed, became known as the Indiana conservative hip. One of his proudest days was in the summer of 1979, when the American Academy of Orthopedic Surgeons sponsored a course in Indianapolis on resurfacing arthroplasty of the hip.

Dr. Eicher had excellent three-dimensional perception. He would internally stabilize intertrochanteric fractures on a standard operating table, using two plain radiographs to verify the correct position after placement of the nail. His Jewett nails were custom-made. These nails were not cannulated, and the inferior fin was several millimeters longer than the other two. All of the fins were very sharp.

When the Orthopedic Letters Club was begun, in 1950, Dr. Eicher was invited to be a founding member. He greatly enjoyed this club for its intellectual stimulation and camaraderie, and traveled frequently with fellow members to Europe and Canada.

Dr. Eicher was an associate clinical professor of orthopedic surgery at the Indiana University School of Medicine. He was at his fun-loving best with medical students, interns, and residents. He and his wife, Pluma, often entertained students and house staff in their home, and he greatly enjoyed house-staff parties. He repeatedly insisted that the years of postgraduate training were the best because of the rapid pace of assimilation of knowledge and the absence of the socioeconomic pressures of practice.

When Pluma died of neoplasia in January 1978, Dr. Eicher's stamina seemed to wane. In 1982, after a bilateral cataract operation, a urinary tract infection led to a brain abscess. Next came a mitral valve replacement and then a mediastinal abscess. He recovered from all of these problems except the severe visual impairment, which was a great setback because of his insatiable reading habit.

In June 1988, Dr. Eicher had a heart attack, from which he did not recover. He died on August 30, 1988. In addition to his wife, his oldest son, Philip, preceded him in death. A son, Dan, and a daughter, Julie, survive.

Valentine Herbert ELLIS

1901–1953

Valentine Herbert Ellis was born in India on February 24, 1901, and was the son of Major-General Philip Ellis of the Army Medical Service. He was educated at Wellington, Clare College, Cambridge, and St. George's Hospital. He graduated in 1925, became a Fellow of the Royal College of Surgeons of England in 1928 and at about that time turned his attention to orthopedics. He became a surgical registrar at the Royal National Orthopedic Hospital, was appointed assistant surgeon in 1931 and served the hospital faithfully until he died. In 1932, Ellis became the first orthopedic surgeon at St. Mary's Hospital. No happier choice could have been made. He was no narrow-minded specialist, and it was fitting that the first and moving tribute paid to his memory came from his friend and colleague, George Pickering, the Professor of Medicine. It was the breadth of his interests that made Ellis such a remarkable person. Few orthopedic surgeons nowadays can claim to have a proper knowledge of every aspect of their work, but Ellis could and this invested his opinions with unusual value. He was very well read and by means of other appointments, as at Lord Mayor Treloar's Hospital, Alton, and at the Heatherwood Hospital, Ascot, he accumulated a vast and varied experience. His versatility was reflected in the papers he wrote; they were not numerous, just over 20, but each dealt with some important aspect of a different problem. He was never repetitious. This all-round competence in orthopedics was strengthened by his knowledge of medicine in general, of medical administration, of public affairs and by his ability to assess the characters of other men. Ellis was, above all, a wise man and he possessed the urbanity and detachment that would have made him a good judge or colonial governor. Yet these qualities were not such as to attract the attention of the crowd or even of the profession at large. He was not a brilliant innovator or a popular orator, and his talents were concealed by a natural reserve that could be a little forbidding. His comments on men and affairs were terse and sometimes epigrammatic. Those who knew him well instinctively sought his opinion, and even his verdict, not only on clinical problems but on difficult matters of administration. It was natural that he found himself on the governing bodies of both of his teaching hospitals and he was chairman of the Medical Committee of the Royal National Orthopedic Hospital and of the Academic Board of the Institute of Orthopedics. His colleagues in the Institute had particular reason to be grateful to him; a young postgraduate school is very vulnerable to the influence of reaction on the one hand and unbalanced enthusiasm on the other. Ellis disliked both, and he used the great weight of his authority to keep the course steady and the pace even. When he spoke as treasurer of the British Orthopedic Association, he was no tame book-keeper but a maker of policy. He would have been one of the association's greatest presidents. He had already served with distinction as president of the Orthopedic Section of the Royal Society of Medicine.

Ellis was wholly free from self-importance and it seems never to have occurred to him to seek his own advancement; his thoughts were for the benefit of his patients and of any organization with which he was connected. His private life was distinguished by simplicity and contentment. He was devoted to his wife and two children and there was a quiet elegance about their charming house in a pleasant backwater of Paddington. It was furnished with perfect taste; there were even tapestries that Ellis himself had worked in his odd moments of leisure. The garden was his particular delight and he would invite the visitor to inspect his 15 varieties of lily, though his descriptions of their characteristics were always punctuated by powerful imprecations against his only enemies—the stray cats of Paddington.

Three of his activities as a surgeon are particularly noteworthy. In 1937, he and B.H. Burns,

his closest friend since they were undergraduates together, wrote *Recent Advances in Orthopedic Surgery*, an exceptionally valuable book that should have gone into further editions; it revealed the breadth of the authors' interests. During the war, Ellis was posted to the emergency hospital at Park Prewett in Hampshire, where he worked with unremitting devotion. In 1945, he and Innes published a short but significant paper on "Battle Casualties Treated by Penicillin," based on a study of no less than 15,000 cases. A quotation from this paper reveals his sanity at a time when there was much uncritical enthusiasm: "Penicillin has made no difference to the paramount importance of early and adequate surgery; it has, in addition, produced new difficulties in that the effect of penicillin on contaminated wounds obscures the extent of the infection of the tissues, and makes it difficult to judge how radical surgery should be." Lastly there was Ellis's growing interest in disorders of the shoulder joint; he studied these puzzling conditions with patience and care, his employment of arthrography proved of immense value in the elucidation of injuries of the rotator cuff, and his published papers give some indication of what might have been expected from him, had he lived longer.

On the morning of Tuesday, September 15, 1953, V.H. Ellis had just seen the last patient at his fracture clinic at St. Mary's Hospital when he suddenly collapsed and died. He was only 52.

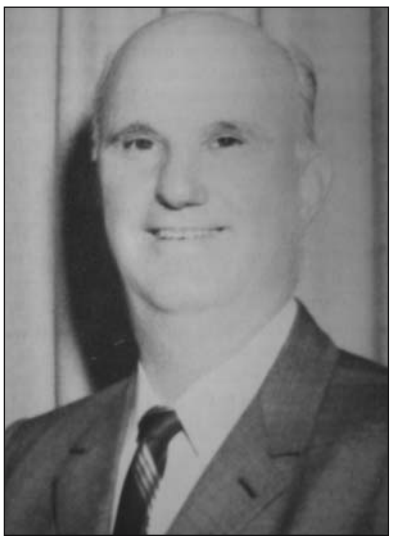
R.C. ELMSLIE

1878–1940

R.C. Elmslie spent the whole of his professional life as student and surgeon at St. Bartholomew's Hospital and at the Royal National Orthopedic Hospital, except during World War I, when he was in charge of the Military Orthopedic Hospital, Shepherd's Bush. He spent 5 years as a demonstrator of pathology and his knowledge of this subject colored his work in orthopedics. To it, we owe the classical work on fibrocystic disease of bones, first published in 1914 and expanded subsequently in the *Birthday Volume*.

As an orthopedic surgeon, Elmslie was one of the greatest of his day, next only to Robert Jones and perhaps Tubby. His ability to think clearly, his wisdom, imperturbability and admirable judgment were his powerful assets. Indeed the writer has never worked with anyone whose judgment always proved so sound; it seemed that he was incapable of being wrong. He was a competent and neat operator who devized several first-class procedures. His only expressed vanity was to pride himself on sewing skin in, as he put it, "the manner of those who know best how to sew—women." Like Robert Jones, he devoted an enormous amount of time to the social welfare, education and after-care of crippled children. He was in great demand for committee work in his own hospital, government departments, the Royal College of Surgeons (on the council of which he served from 1933 until his death), the British Orthopedic Association, the British Medical Association, the Chartered Society of Physiother-

apy, and the Central Council for the Care of Cripples. His clear and logical exposition before the Select Committee of the House of Lords is said to have carried the greatest weight in deciding the Committee to reject the osteopaths' claim for recognition. As a man, Elmslie lacked the warmth of Robert Jones, whose friend and admirer he always was. He was not easy to know—but his reserve did not prevent him inspiring the greatest enthusiasm and devotion in his pupils, which they still retain.



Otto Anderson ENGH

1904–1988

Otto Engh was a native of Johnstown, Pennsylvania. One of six sons of immigrants—his father, a foreman in a steel mill, had come from Sweden, and his mother from Norway—he and his brothers were given the middle name of Anderson, which had been their father's name before he emigrated and changed it to Engh.

After receiving an undergraduate degree in science from Ohio University, Athens, Ohio, Otto Engh worked as a high-school science teacher and athletic coach in Johnstown. In 1935, he married Sara, who was also a teacher. He was a talented musician; he almost became a professional performer, but his wife encouraged him to pursue his medical career.

Dr. Engh received his medical degree from Temple University, Philadelphia. During his second year of residency at the Pennsylvania Crippled Children's Hospital in Elizabethtown, he decided that working with crippled children was to be his specialty.

In the fall of 1936, Dr. Engh moved to the Washington, DC area and began his practice, which was to continue until his retirement in 1976. He started as assistant to another physician, but he was impatient to do more work with crippled children and saw a glaring need for such services. The area had no facilities that specialized in orthopedic deformities, which were far more common in the past than they are today. Poliomyelitis was a major problem, and club foot, dislocated hips, osteomyelitis, and curvature of the spine also contributed to the need for reconstructive surgeons and long-term hospital care.

Dr. Engh opened his own practice in 1938, in his home in Alexandria, Virginia, but he had a desire to own a clinic or hospital. He bought land in Arlington and established offices, which he called the Anderson Clinic. He also established a crippled children's program through the Arlington Health Department. Previously, such children, especially in rural areas, were being seen only once or twice a year, and few operations were being done. At Dr. Engh's center, the patients were seen weekly and received therapy. In addition, he instituted community-based clinics for handicapped children at Gallinger Hospital (now DC General Hospital) in Washington and at Arlington Hospital in Arlington.

Dr. Engh traveled throughout the metropolitan Washington area to see patients at a half-dozen hospitals, frequently taking his wife and three children with him on weekends.

In the 1940s, Dr. Engh converted the physical-therapy floor of the Anderson Clinic into an 18-bed hospital, complete with iron lungs, to treat victims of poliomyelitis, because of the desperate need for beds for such patients. The construction of an entire hospital for orthopedic surgery followed a few years later. The original hospital was totally a volunteer effort, backed by the Arlington Junior Chamber of Commerce, the Northern Virginia Builders and Plumbers Association, and other organizations; it was built with donated materials and labor, on land donated by Dr. and Mrs. Engh. In the 1950s, the hospital's name was changed to the National Hospital for Orthopedics and Rehabilitation, new wings were added, and services were expanded. During the late 1950s and early 1960s, the hospital was designated by the federal government to serve as a pilot

demonstration project on rehabilitation. The hospital remains a private, non-profit institution.

Dr. Engh served as President of the Virginia Orthopedic Society, the District of Columbia Orthopedic Society, and the Alexandria Medical Society. He was Chief of Staff at Alexandria Hospital as well as at the National Hospital for Orthopedics and Rehabilitation.

Dr. Engh was a distinguished orthopedic surgeon and a leader in the field of orthopedics. He is particularly remembered in his community for his early work with children who were crippled by poliomyelitis, his founding of the National Hospital for Orthopedics and Rehabilitation, and the Anderson Clinic, a practice that continues under the direction of his two sons.

Otto Anderson Engh died at his home in Falls Church, Virginia, on April 11, 1988. He was survived by his wife, Sara, of Falls Church, Virginia; three children, Charles A. Engh, MD, of Arlington, Virginia, Sara Engh Reger of Shaker Heights, Ohio, and Gerard A. Engh, MD, of Alexandria, Virginia.

Sigmund EPSTEIN

1880–1970

Dr. Sigmund Epstein practiced orthopedics in New York City for a lifetime. He was graduated from Cornell School of Medicine in 1903, and died in retirement at the age of 90. He was a cultivated gentleman with a pleasant interest in the arts and literature. During the latter part of his life, he acquired a large collection of photographs of masterpieces from museums throughout the world and art books in which pictures of deformities, braces and crutches appeared.

Wilhelm Heinrich ERB

1840–1921

Erb's fame was made possible by hard work over a long period of time, with close attention to detail.

The son of a woodsman in the Black Forest, Erb studied at Heidelburg. His interest in clinical neurology developed when he worked for Friedreich. Erb was a prolific writer; on returning from his holidays, he usually produced a new piece of work. In all, he wrote 237 papers and several books, one of peripheral nerve diseases, a textbook of spinal cord diseases, and another on electrotherapy. In 1880 he succeeded Friedreich at Heidelburg. He founded a journal, and was first President of the Society of German Neurologists in 1907.

Erb did much to give clinical examination of the nervous system its present form. He pointed out the significance and value of pupillary and tendon reflexes. He is remembered for his account of brachial plexus injuries.

In manner he was brusque and intense, and offended people by language unusual in academic circles; he was more respected than loved. Medical administration, education and local politics were subsidiary interests. He died, it is

said, while listening to his favorite symphony, the Beethoven Eroica.

Johann Friedrich August Von ESMARCH

1823–1908

Esmarch was a military surgeon who was concerned with blood loss and first aid.

He was born at Tonning, Schleswig-Holstein, at a time when the province was struggling for freedom from Denmark. The son of a doctor, he studied at Gottingen and Kiel, becoming an assistant to Langenbeck.

It was during the insurrection against Denmark in 1848–1850 that he began surgery; he also organized the resistance movement. In 1857 he became Professor of Surgery at Kiel, succeeding Stromeyer, the tenotomist, and marrying his daughter. He was engaged in military surgery again between 1866 and 1871 in the wars with Austria and France; in 1871 he became surgeon General of the army. Soon after, in 1873, he married again—this time a Princess of Schleswig-Holstein. In the same year he published his description of the bandage that bears his name. He used this to produce a clear bloodless field for surgery and to diminish the blood loss during amputations in particular. His contributions to medicine were mainly derived from his battlefield experiences.

In 1869 and 1883 he published handbooks on first aid and founded the Samaritan's schools, based on the St. John's Ambulance Brigade, to teach first aid throughout Germany.

When I look back on my career as a surgeon I can say with truth that many and many are the times I have deplored that so very few people know how to render the first aid to those who have suddenly met with some injury. This specially applies to the field of battle; of the thousands who have flocked thither in their desire to help, so few have understood how to render aid.

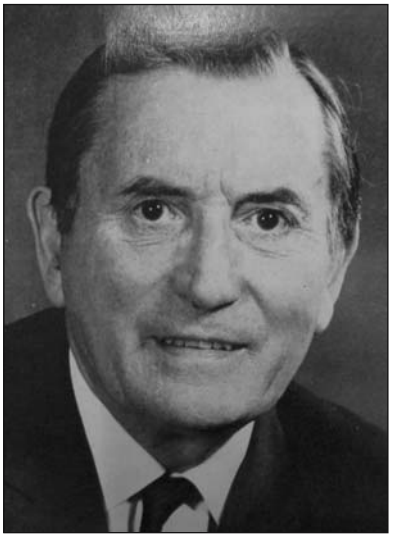
His program of education has improved the situation.

Peter Gordon Lawrence ESSEX-LOPRESTI

1916–1951

Mr. Essex-Lopresti was trained at the London Hospital and qualified in 1937. After several resident appointments, he joined the Royal Army Medical Corps serving as a surgical specialist in an airborne division. As a result of this experience, he was able to give a comprehensive report on the injuries associated with 20,777 parachute jumps made by men in the Sixth British Airborne Division, one of the first such reports. A paper on the open wound in trauma followed. At the end of World War II, he went back to the Birmingham Accident Hospital where he reorganized the postgraduate training program. He was recognized as

an outstanding young surgeon and was awarded a Hunterian Professorship. His Hunterian Lecture, delivered at the Royal College of Surgeons on March 6, 1951, was entitled "The Mechanism, Reduction Technique, and Results in Fractures of Os Calsis." Essex-Lopresti is remembered eponymically for his cases of radial head fracture associated with distal radioulnar dislocations, i.e., Essex-Lopresti's fracture. Mr. Essex-Lopresti was a talented and energetic young surgeon, whose death at the age of 35 cut short a promising career.



Dillwyn EVANS

1910–1974

Dillwyn Evans intended originally to become an ear, nose and throat surgeon, but after house appointments at the Prince of Wales Orthopedic Hospital and at Oswestry he eventually joined his friend and teacher A.O. Parker in Cardiff, where he remained until his death.

His contributions to orthopedic surgery have been considerable, mostly papers read to various societies—on spinal disease, which reflected his great experience at Glanely Hospital; on subfascial ischaemic lesions of the limbs, a subject that he regarded as particularly important because of its medicolegal implications; and on eosinophil granuloma. His main work, however, and that which earned him an international reputation, was on the subject of foot deformities. Most of the important contributions to surgery have arisen from simple ideas, and Dillwyn's work on feet is no exception, being based on the concept, as he put it himself, "that whereas in the normal foot the medial and lateral columns are about equal, in talipes equinovarus the lateral column is longer and in the calcaneo-valgus foot it is shorter than the medial. It is suggested that one requirement in the treatment of both deformities is that the length of the columns be made equal." His paper on the relapsed club foot is a classic; his paper on the calcaneo-valgus foot will complete his contribution to the subject and it is sad that he has not lived to see it. After the publication of his club foot paper, he was in great demand. He went to Brazil on two occasions as a visiting professor under the aegis of the British Council, and inaugurated a system of training for Brazilians in this country. He went to Canada at the invitation of the Canadian Orthopedic Association. He had been a member of the British editorial board of *The Journal of Bone and Joint Surgery*, and traveled and spoke as a member of the British Orthopedic Travelling Club. But he remained essentially as he always was—a teacher, a clinician, an original thinker—and he was always as ready to listen to the views of others as to put forward his own.

No account of Dillwyn's services to orthopedic surgery would be complete without reference to the man himself. Quiet and unassuming as he was, he had complete authority in committee or discussion, and when he rose to speak at a meeting he would be heard with careful attention. He was a born teacher, because he liked young people and liked imparting his knowledge, and his services to orthopedic surgery in Wales in this respect have been immense. To the writer, however, his most impressive attribute was his clinical honesty. The history was always taken with the same meticulous care, the examination was never hurried, and the conclusion was reached after due consideration; there were no shortcuts for him and he never falsified his findings to suit his ideas.

His interests were legion—golf, rugby football as befitted a true Welshman, music and traveling, all contributed to his progress through life. He came of farming stock and, although he did not farm himself, he allowed one of his daughters to marry a farmer, and so had the best of both worlds.

Dillwyn Evans died at his home at Cardiff on November 9, 1974, at the age of 64. Eighteen months previously he had suffered a severe hemiplegia, but with immense courage and with

the devoted help of his wife, herself once a physiotherapist, he had recovered well enough to enable him to resume teaching and outpatient work, and to lead an active life. He retired from the health service in October 1974, because he knew that he could no longer operate.

James EWING

1866–1943

James Ewing[2] was born in Pittsburgh on Christmas Day in 1866. When he was 14 years old, his education was interrupted by osteomyelitis of the femur, for which he was confined to bed for 2 years. At home he had a tutor and in addition he entertained himself by entering contests. In one, for which he provided the longest list of words composed with the letters of the word Constantinople, he was successful. The prize was a microscope, the tool on which his later career was to be based. In 1884, Ewing entered Amherst College where, in spite of a limp and a persistent draining sinus, he participated fully in all of the student activities. Four years later he began his medical education at the New York College of Physicians and Surgeons.

After his graduation from medical school in 1891, Ewing interned in Pittsburgh and New York, showing particular interest in clinical and microscopic pathology. He went to Germany in 1894 to pursue further study in these areas. In 1899, at the age of 33, he was appointed the first professor of pathology at Cornell University.

The success of his professional life was in contrast to the tragedy of his personal life. His marriage ended abruptly when his lovely wife died suddenly of eclampsia during her second pregnancy, leaving him alone with an infant son. He never remarried and gave all of his thought and energy to his work.

He began to study cancer at the Alfred L. Loomis Laboratory at Bellevue Hospital. His work there caught the eye of James Douglas, a philanthropist, and led to the establishment, in 1913, of the Memorial Hospital for the Study of Cancer and Allied Diseases. Douglas was especially interested in radium and the benefits of radium therapy, and Ewing quickly became an enthusiast for radiation treatment of malignant diseases. As the pathologist of the hospital, he accumulated the great experience that formed the foundation of his book, *Neoplastic Diseases*,[3] published in 1919. It was in 1920 that he first described the bone tumor with which he is identified.[4] The tumor that he called a diffuse endothelioma of bone was labeled "Ewing's tumor" by Codman in his bone tumor registry of the American College of Surgeons.[1] It has maintained the designation ever since.

As the director of Memorial Hospital, Ewing had great influence, and his strong support for the use of radiation therapy, rather than operations, for the control of cancer affected the development of the surgical treatment of these lesions. He maintained his position until a few years before his death in 1943 and is remembered as one of the leaders in the fight against cancer during the first half of this century.

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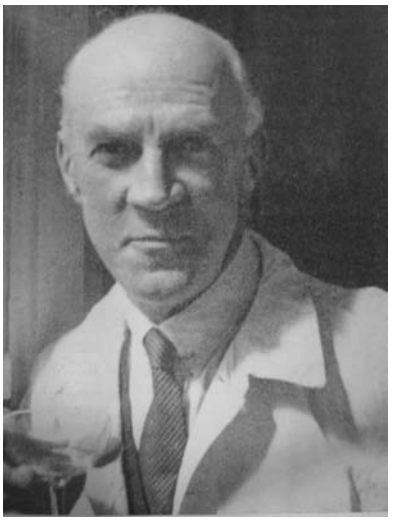


Harold Arthur Thomas FAIRBANK

1876–1961

Sir Thomas Fairbank will be remembered as a leader of surgery in Great Britain who shared with Sir Robert Jones, his senior colleague and friend, the pioneering endeavors of the 1920s by which orthopedic surgery became recognized and established as one of the major parts of general surgery and medicine. He will be remembered also as Tom, or more affectionately as Uncle Tom, who again shared with Robert Jones the sterling qualities of integrity, sincerity and modesty, with courteous thoughtfulness for juniors such that they became inspired as disciples. Thus each of these leaders achieved the immortality of which we can be certain—the stimulating influence of one life upon the lives of others so that their own contributions to the welfare and happiness of mankind are multiplied and perpetuated.

Thomas Fairbank was a founder member of the British Orthopedic Association in February 1918, and when he died in February 1961 he shared the surviving influence of our founders with only two others, Rocyn Jones and Harry Platt. He was vice president to Robert Jones throughout the 5 years of that memorable leadership; then president himself in 1926–1927; and thereafter Emeritus Fellow, the first so to be honored. In 1929 he was a founder member of the International Society of Orthopedic and Traumatic Surgery, and later vice president in Bologna and Rome. He was vice president of the orthopedic section of the British Medical Association at its centenary meeting in 1932, president of the orthopedic section, and of the pediatric section of the Royal Society of Medicine, in later years gaining the rare distinction of honorary fellowship. He was Robert Jones Lecturer in the Royal College of Surgeons of England in 1938, but even more was he inspired by the Lady Jones Lectureship in Liverpool in 1929.

It is through the allegiance of Fairbank to Liverpool and to Robert Jones that I first met him. Then I did not know that he was one of a family of five whose father, a medical practitioner in Windsor, had died when he was young; that he was an Epsom boy who had qualified in the Charing Cross Hospital Medical School; had foregone his earlier destiny to dental surgery; had been a civil surgeon in the Boer War, meeting Lord Roberts, Lord Kitchener, Rudyard Kipling and Conan Doyle; in the First World War had driven mules and ambulances in Salonika—or was it Greece or Macedonia—I did not know. I knew only that he was the great leader of orthopedic surgery in London, consultant to King's College Hospital where he had established the first fracture clinic in London, and to the Great Ormond Street Hospital for Children and the Lord Mayor Treloar Orthopaedic Hospital at Alton. What mattered to me was that he was the first external examiner for the Liverpool degree of MChOrth and that with Robert Jones he was examining me as one of the first three candidates. Could I ever forget his grumpy kindness when, having asked me to do a Stöffels bilateral obturator neurectomy by the abdominal approach, he assisted me with a retractor in one hand and a lighted match within the stiff cadaveric abdominal walls with the other?

In later years, when I assisted him at Great Ormond Street, and his endeavor was concentrated on trying to solve the problems of congenital dislocation of the hip, could I ever forget the kind growl of his voice that was so tender to children that they knew at once that he could be trusted? In later years, when he had the heavy responsibility of directing the orthopedic organization of the Emergency Medical Services of Great Britain in the Second World War, and I had to compete gently for another orthopedic service in the Royal Air Force, could there ever have been warmer or more courteous understanding? In days of peace did he not hold the greatest second-opinion private practice ever known by reason not only of his wisdom but also his integrity? And, as if we were not already bound as disciples, could he have given more stimulus to those of us who

were young in creating the British volume of *The Journal of Bone and Joint Surgery* than his series of contributions on disorders of bone growth? This had been a life study and a life collection, over which he chuckled happily for so many years after his deafness commanded retirement from active practice, which was then published as a classic with the modest title: *Atlas of General Affections of the Skeleton.*

One other important contribution he made to surgery has for the moment been dimmed by reason of the development of chemotherapeutic antibiotic drugs. But most surely it will arise again and, just as he learned it from Arbuthnot Lane, we will again learn it from him because, sooner or later, we will know that the basic protection of surgical cutting can never be antibiosis or antisepsis, but only asepsis. His operative technique was superb, and only the angry young men of welfare states will say that the nontouch technique as practiced by this grand old man is difficult or impossible or unnecessary.

Paul FICAT

1917–1986

Professor Paul Ficat started his medical career during World War II. For his voluntary participation in the war, he received the *Croix de Guerre* with one bronze star, as well as the Medal of the Resistance. After the war he completed his thesis for the title of Doctor of Medicine, subsequently spending 1 year in the United States from 1947 to 1948, made possible by a Cultural Relation Grant from the French Government. Six months of this time was spent in Baltimore on the service of Professor Blalock at the Johns Hopkins Hospital.

After his return to Toulouse in 1948, Ficat turned his attention to orthopedics, becoming the equivalent of associate professor in 1958, professor in 1962, and professor and chairman in 1970. He was a native of the Toulouse region, and he spent his entire professional career in the medical school there.

Halsted, the renowned American general surgeon, wrote that the operating room is the laboratory of the highest order. Paul Ficat made this his life's work, resolving clinical problems through critical intraoperative observations, never missing an opportunity to make a measurement or take a biopsy specimen for later evaluation. Physiologists, anatomists, and histologists were frequent "accessories" to the operating room team. The product of this labor was prodigious, resulting in more than 300 scientific publications, 12 books, and innumerable chapters.

The quality of his work has been recognized by his peers and by the awards that he received, including the *Chevalier de l'Ordre Nationale du Merite* in 1972 and the *Prix Bouchard* of the National Academy of Science in 1978. Moreover, his scientific works spanned a wide range of topics, from ligament instability to osteoarthrosis and from chondromalacia patellae to avascular necrosis of bone. To each area he brought not only the perception of the clinician but also the ability to see with the eyes of the physiologist, the microscopist, and even the electron microscopist. He was one of the few orthopedic clinicians with the ability to "see" problems at the cellular and subcellular level.

Above all, Paul Ficat was an educator. He was a valued teacher at congresses and universities around the globe. In the few years before his death, his work became better known in the English-speaking world through his publications in English and his presentations at meetings of the Hip Society, instructional and continuing education courses of the American Academy of Orthopedic Surgeons, meetings of the Canadian Orthopedic Society, and many universities with English-speaking students.

Paul Ficat was a giant in orthopedics. He was also a devoted family man, whose four children, two sons and two daughters, have all followed him into medicine: the sons into orthopedics.

Professor Paul Ficat died on January 26, 1986 at the age of 68 years. At the time of his death he

was Professor of Clinical Orthopedic Surgery and Traumatology at the Université Paul Sabatier in Toulouse, France.

Joseph William FIELDING

1923–1998

Joseph William Fielding was born in Toronto, Ontario, Canada, on February 17, 1923. After completing his undergraduate education, he entered the Toronto School of Medicine in 1941 and graduated in 1946. While in medical school, he served in the reserves in the Royal Canadian Army Medical Corps and the Royal Canadian Air Force. An excellent student and athlete, he participated in several sports, including football, track, soccer, and water polo. After completing a rotating internship at the Vancouver General Hospital in Vancouver, British Columbia, he continued his postgraduate education with residencies in pathology at St. Luke's Hospital in New York City in 1947 and at Montreal General Hospital in 1948. He completed a general surgical internship at Shaunessey Hospital in Vancouver in 1949 and then returned to St. Luke's Hospital to begin his orthopedic training.

Under the tutelage of Dr. Mather Cleveland, Dr. David M. Bosworth, and Dr. Frederick R. Thompson, Bill was exposed to many areas of orthopedics, with particular emphasis on the spine and the hip. He spent 1 year of his orthopedic residency at the Seaview Hospital in Staten Island, a major center for the treatment of tuberculosis. While there, he developed great interest in tuberculosis of the musculoskeletal system and coauthored several papers on its operative and chemotherapeutic treatment with Dr. Cleveland and Dr. Bosworth.

After completing his residency at St. Luke's, Bill was invited to join the practice of Dr. Bosworth, who had a great influence on his career in orthopedic surgery. Bill served as an American–British Canadian (ABC) Exchange Fellow in 1957 and, later, as Professor of Orthopedics at Columbia University.

Bill had a special interest in photography and was introduced to a new technique, cineradiography, by a medical photographer in New York. He was fascinated by the ability to make an "x-ray movie" of the motion of various areas of the skeletal system and chose the cervical spine as the subject for a cineradiographic exhibit, which he presented at the annual meeting of the American Academy of Orthopedic Surgeons in 1959. This not only introduced orthopedic surgeons to the new radiographic technique, but also enhanced Bill's interest in the cervical spine. He later devoted much of his career to the cervical spine and wrote a number of classic articles on the anatomy, physiology, and pathology of the first and second cervical vertebrae. He was a founding member and president of the Cervical Spine Research Society and was recognized throughout the world as one of the few experts on this subject.

Bill was a tireless worker for the American Academy of Orthopedic Surgeons and served on 13 committees, including the Scientific Program Committee, of which he was chairman in 1976. He became president of the Academy in 1983 and continued to serve as a member of the board of directors from 1984 to 1990.

He held memberships in 34 orthopedic associations and societies, both national and international, including the American Orthopedic Association, the Association of Bone and Joint Surgeons, the Canadian Orthopedic Association, and the American College of Surgeons. He received the Kappa Delta award in 1963 and the Nicholas Andry award for special scientific contributions in 1975.

After a tenure as Orthopedic Director of the Polyclinic Hospital in Manhattan and the House of St. Giles (a children's orthopedic hospital) in Brooklyn, Bill succeeded Dr. Frederick R. Thompson as Director of the Department of Orthopedic Surgery at St. Luke's Hospital in 1973. He became director of a combined ortho-

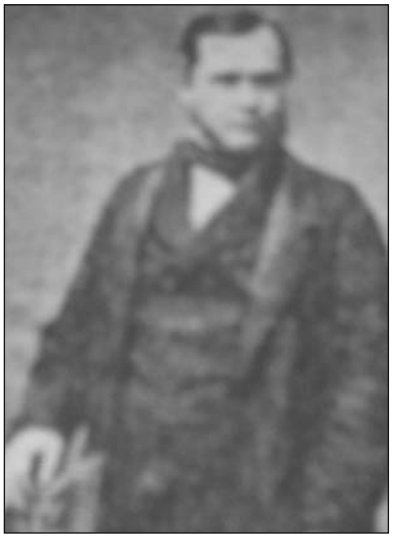
pedic program with Roosevelt Hospital, which was integrated in 1987 after the two institutions merged.

Bill was an energetic, highly motivated surgeon and educator with excellent clinical and operative skills. His enthusiasm for orthopedic surgery was passed on to many of the residents whom he trained, who were often in awe of his accomplishments and his unique personality. He produced 14 sound-slide programs and 15 medical motion pictures and videotapes and was credited with 162 scientific publications, 60 of which appeared in *The Journal of Bone and Joint Surgery*. In addition, he contributed chapters to 35 textbooks. Well known as an international lecturer and teacher, he was invited to serve as a visiting professor at many academic institutions and societies in America and throughout the world. Although his interests encompassed many areas of the musculoskeletal system, his major contributions were related to his work on the cervical and lumbar spine.

Despite his remarkably busy career, Bill found time to study the origins of ancient civilizations. He visited many sites around the Mediterranean and in Central and South America and assembled an outstanding collection of photographic slides that were of archaeological and anthropological interest. He presented these slides at many orthopedic meetings and was always ready to given an interesting dissertation on the structural remains of ancient cities, tombs, and meeting sites, during which he would point out evidence of musculoskeletal diseases and how they were treated in early times.

Bill participated in numerous instructional courses and used innovative photographic techniques that delighted audiences. No one dozed during a Fielding slide show, and those who were present at his Presidential Address in Anaheim, California, will not forget the multiple slide projectors that were positioned and synchronized around the perimeter of the auditorium. The presentation received a standing ovation.

Joseph William Fielding died on March 18, 1998. He was survived by his wife, Doris; four children, Pamela, Bruce, Debra, and Victoria.



Jean Timothee Emile FOUCHER

1823–1867

Jean Timothee Emile Foucher was born in Saint-Mars, where his father conducted a small private school. It was his father's wish that his son would follow his example and become a teacher also, and it was over considerable opposition that Foucher broke away to attend medical school in Paris in 1844. He gradually rose through the ranks of the medical system in Paris as a protégé of Velpeau, becoming chief of the surgical service at Bicetre in 1863. His interests were broad. He conducted animal experiments using various anesthetic agents, tested a number of antiseptics, translated and annotated an English work on ophthalmology, and wrote about the surgical anatomy and pathology of diseases and injuries of the extremities. His work on epiphyseal injuries falls into this last category. In order to appreciate his accomplishment, his short career must be viewed against the background of the turbulent times in which he worked. Foucher's premature demise as the result of a ruptured aneurysm of the thoracic aorta, probably syphilitic in nature, was typical of the era.

Albert H. FREIBERG

1868–1940

Dr. Albert H. Freiberg was born in Cincinnati on August 17, 1868, the son of Joseph and Amalia Freiberg. He was a graduate of the University of Cincinnati and of the Medical College of Ohio, which later became the Medical College of the University. After his internship at the General Hospital, he spent considerable time abroad, studying at the universities of Würzburg, Strasbourg, Berlin, and Vienna. On his return to this country in 1893, he began practice in Cincinnati, and, as was the custom in those days, he began with general work, but his aim always led him toward specializing in orthopedic surgery.

Dr. Freiberg always took an active part in the affairs of his profession and was a member of the American Medical Association, the American Orthopedic Association, the Clinical Orthopedic Society, and a Fellow of the American College of Surgeons and of the American Academy of Orthopedic Surgeons. He was also active in local medical affairs. He was President of the Ohio Medical Society, 1929–1930; the Cincinnati Academy of Medicine, 1923–1924; and Chairman of the Orthopedic Section of the American Medical Association, 1917–1918. Dr. Freiberg played an important part in the establishment of orthopedic surgery in his city and state, and the present position of orthopedic surgery in that community is largely due to his influence and the result of his work. He was Chief of the Orthopedic Service at the Cincinnati General Hospital, at the Children's Hospital, and at the Jewish Hospital while in active practice, and continued to serve as consultant at these hospitals. At the time of his retirement from the Chair of Orthopedic Surgery at the Medical College of the University in 1938, he was made Professor Emeritus. During the World War he served as Major in the Medical Corps, United States Army, and was Chief of the Department of Orthopedic Surgery at Walter Reed Hospital at that time.

Dr. Freiberg always took a special interest in the affairs of the American Orthopedic Association, particularly in its development, to the end that it might be an important and influential factor in establishing and maintaining a high and dignified standard. He was President of the Association for the year 1910–1911 and always took an active part in the scientific and administrative proceedings of all its meetings, and served on many important committees. In the executive meetings, Dr. Freiberg was frequently consulted on matters of parliamentary law. His mind was keen and analytical, his judgment fair and tinged with kindliness. He was a splendid speaker and his tongue had no barb. He was influential in debate and frequently turned the discussion toward correct and wise decision. His honesty and good sense added weight to his opinions. He took a prominent part in its scientific sessions and the Association always looked forward to his communications as being of value, for they indicated the result of his experience and excellent judgment. His position was always foremost in the advance line of progress.

He was an active contributor to medical literature. He showed a good deal of originality, and was always foremost in aiding advancements that came to orthopedic surgery through the enlargement of the field of surgery resulting from the advent of antiseptic surgery. He kept in close touch with the departments of medicine other than that to which he devoted his life, and he did this on principle as part of his eager quest for knowledge, which was evident in his clear sense of values and breadth of grasp. His consideration of all sides of any problem gave weight and confidence to his decision.

Dr. Albert H. Freiberg died in Cincinnati, July 14, 1940, after an illness of 2 weeks. He was survived by his wife, who was Jeannette Freiberg, and two sons.

Jules FROMENT

1878–1946

Jules Froment was Professor of Medicine at Lyons, and devoted his life to neurology, combining diligent observation, a philosophical approach and debating skill.

Graduating in 1906 with a thesis on disease of the heart in thyrotoxicosis, he remained at Lyons until the Great War. After a year at the front, he joined a nerve injuries unit at Rennes, and later was at Paris with Babinski. During this time he evolved a series of tests for nerve dysfunction, the best known being his sign of ulnar nerve weakness; another was loss of the hollow of the anatomical snuff box in radial nerve injury.

After the war he ran a Red Cross Hospital in Lyons, and the encephalitis epidemic of 1918–1922 provided another intellectual challenge. In 1926 he nearly died as a result of being severely injured by one of his patients.

Froment pointed out the difference between a pinch grip and grasping, both of which are impaired by a low ulnar nerve palsy due to weakness of adductor pollicis. He introduced a test to show this. Today it is used to assess flexor pollicis brevis.

Ronald FURLONG

1909–2002

Ronald Furlong, the pioneer of hydroxyapatite-coated hip replacements, died on August 12, 2002 at the age of 93. He is buried in Weggis, Switzerland, which fittingly reflects his strong professional and cultural links with the continent. He was honored by Pope Pius XII with a special blessing for his work among the civilian population in Milan at the end of World War II. He was the "discoverer" of Küntscher, the nail and then the man. In Italy with the Royal Army Medical Corps (RAMC), Furlong developed a particular expertise in plating fractures of the femur and, at the base hospital in Caserta, accumulated a personal series of 200 cases. After the Allied Army took Italy, he was responsible for inspecting a German military hospital. Here, he recognized something very unusual in the treatment of a fractured femur and, at the end of the war, was instructed by Whitehall to find out about this new device. After a hair-raising journey through war-torn Europe, he eventually located Professor Küntscher in Kiel via the good offices of Professor Böhler (a friend of Ronnie Furlong's old chief, Rowley Bristow), whom he found in hiding in Vienna. The currency for this extraordinary adventure was cigarettes and the mode of transport a jeep. He returned to Britain much impressed by Küntscher's work, together with a precious trefoil-shaped intramedullary nail, which he personally delivered to Maurice Down of Down Brothers, the famous old British manu-

facturing company. It was then marketed worldwide.

Later in his career he would once again turn toward continental Europe for inspiration and assistance in developing his own ideas. He was one of the very few British surgeons to be a personal friend of Professor Pauwels and one of only five people to be awarded the Pauwels Medal for biomechanics. Pauwels spoke only German and wrote only in "High German" so, in his early sixties, it was back to school for Ronnie Furlong, this time language school. It is a tribute to his remarkable intelligence that it took only 3 months of early-morning daily German lessons for him to master the language. Within a year, together with his friend, Paul Maquet, one of Pauwels' disciples and the pioneer of the understanding of the leg alignment in knee surgery, he was translating the works of Pauwels, Braun and Fischer into English. Rather remarkably, these translations sold well in Germany, as the text was more comprehensible when written in English than in the complexity of classical German! During early 1960, I can recall the often animated debates on biomechanics that would take place among Messrs Furlong, Maquet, Kummer, the distinguished anatomist and pioneer of comparative biomechanics from Cologne, and Bombelli, the Italian guru of proximal femoral osteotomy. Debate would switch from English to German and, to a somewhat bewildered senior registrar, the resultant force was undoubtedly to be reckoned with. Finally, it was the link with the German faciomaxillary surgeon Dr. Osborn that would introduce hydroxyapatite coatings and revolutionize prosthetic fixation.

Furlong's career was extraordinary in the true sense of the word, for nothing about him or what he did was ever ordinary. To start with, it was long, very long; indeed, it probably qualifies for the *Guinness Book of Records*. Will orthopedic surgery or, indeed, any branch of medicine, encounter again a doctor who spends 70 years in active practice? As with most aspects of this remarkable life, his medical career started with a touch of color. Born in 1909, he grew up in south London, being educated at Eltham College. At the age of 16 there was, it seems, a sharp disagreement between Furlong senior and the house master, who had taken exception to finding young Furlong with his feet up on the mantelpiece while some prospective parents were being shown round the school. Consequently, one week Furlong junior was a schoolboy and the next, apparently, a medical student. Whether the Dean of St. Thomas' comprehended that he had admitted a 16-year-old is not recorded, but Ronald probably appeared far older. He was physically a giant of a man, tall, broad shouldered, undoubtedly handsome and always elegant; even as a schoolboy he doubtless had an imposing style. Anyway, if Furlong had decided he was coming to St. Thomas', that was it and the Dean, poor man, was probably not given an option to refuse.

He qualified at the age of 22 and fully justified his early admission, winning the Cheselden Medal for Surgery. As was possible in those days, he passed his primary before he qualified in 1931. By the age of 24 he was FRCS. It seems unlikely he ever actually applied for a job; certainly he never seems to have attended an interview. He was appointed a house surgeon to Sir Max Page, a fine clinician who clearly had a tremendous impact on young Furlong. He appointed himself to his next post, informing Rowley Bristow at a garden party that he proposed to come and work for him. Bristow was the first orthopedic consultant at St. Thomas' and had been placed there by his mentor, Sir Robert Jones. Even though the First World War had given a great boost to orthopedic and trauma surgery, the specialty was, in the 1930s, still tiny. Such expansion that had occurred was largely due to the personal influence of Sir Robert, who had an honorary appointment at many hospitals, one of which was St. Thomas'. Max Page and Bristow remained lifelong heroes. From the former Furlong learned the art of clinical surgery and, from the latter, the art of leadership. He duly became registrar and then chief assistant.

The medical world of the 1930s was very different from today. All doctors worked extraordinarily long hours but the pace of life was far less frenetic. I recall a beautiful summary over coffee in the surgeons' room in classical Furlong style: "The biggest inconvenience in the life of a Harley Street surgeon was that the dining room also acted as the patients' waiting room so that lunch, by necessity, had to finish by ten minutes to two." In those pre-antibiotic days, long-stay patients were lodged in a country hospital and there were several of these around London, for example Stanmore, Black Notley, Royal Sea Bathing at Margate and Lord Mayor Treloar's at Alton. On Fridays, the "great man" from Harley Street/Teaching Hospital would come down in his Rolls Royce, do his ward round, then operate on Saturday morning. Sir Reginald Watson-Jones of

the London Hospital went as far as Oswestry. Each great man usually had his country house near his country hospital. Rowley Bristow lived in a Victorian mansion at West Byfleet and his hospital was the Church of England Home for Waifs and Strays at Pyrford, later renamed the Rowley Bristow Hospital. The day-to-day running of these hospitals was the responsibility of the registrar and chief assistant. Ronnie Furlong's formative years were therefore spent between St. Thomas' and Pyrford and periods out "on loan" to other friends. In Furlong's case, it was to Sir Harold Gillies, the pioneering plastic and hand surgeon. Furlong was a beautiful surgeon to watch and much of the polish came via Sir Harold. Ronnie Furlong was to achieve international acclaim in this field. One of the pleasures of my registrar years was watching him do a now unfashionable operation of fasciotomy for Dupuytren's contracture. He was brilliant with the tenotome and had no fear of digital nerves. He himself had a Dupuytren's contracture in his left little finger. Rowley Bristow had accounted for a digital nerve and the situation had eventually been rescued by Sir Archibald MacIndoe. However, Furlong thereafter had a touch of numbness on the ulnar side of his little finger, but it made no difference to his technical excellence!

The second phase of his career was wartime experience. As with many others who lived through the war, he never spoke about it and it was only when I read *The Times* obituary (August, 28, 2002) that I learned of his blessing from Pius XII and the fact that he was one of the first, if not the first, orthopedic surgeon to use penicillin. He had met Sir Alexander Fleming in Italy and had, with characteristic style, told Fleming, he was most impressed with "that tea stuff you are playing with."

The third phase was his establishment as a leading clinician and one of the best second opinions in the country. He did not even know he had been appointed as a consultant at St. Thomas' until some weeks after the appointments committee, for he was still too busily engaged in his RAMC duties, including, of course, charging around Europe seeking Küntscher. As standard practice, he was sent off on a Fellowship before starting his post. Some things do not change and finance for Fellowships was just as problematic as today. Waiting at Waterloo to catch the boat train to Southampton and thence America, he observed a shadowy figure in a mackintosh walking towards him. Being rather short sighted, it was only when the figure drew close that he recognized that it was George Perkins (the second orthopedic specialist to be appointed to St. Thomas' and, later, Professor of Surgery). Perkins thrust his hand into his mackintosh pocket, took out a large wad of pound notes, thrust them into Furlong's pocket and wished him "bon voyage"! Willis Campbell, Stirling Bunnell, Albee, Sorrell and, I believe, Risser were part of the itinerary. He was, I understand, meant to come back as an expert in spinal fusion and scoliosis, but spinal surgery never fired his imagination.

The 1950s and 1960s were, by Furlong's standards, relatively quiet. He was acclaimed for his excellent monograph on hand injuries, published in the mid-1950s, but much of this was based on his wartime experience. He had a fine command of both written and spoken English, with an extraordinary ability to summarize complex concepts in a brief sentence. His hospital notes were always a delight to read. As a registrar in the follow-up clinic, what more did you need to know about a patient than the simple statement "sciatica—all over the body!" My own favorite story of the Furlong diagnostic acumen was the tale of the butterfly, which was recounted to me by David Gruebel-Lee, chief assistant to Furlong and later consultant at Frimley Park Hospital. He was doing a clinic at the Queen Victoria Hospital, East Grinstead (Furlong had sessions at St. Thomas', the Rowley Bristow Hospital, Pyrford, and East Grinstead) when in came a lady in her thirties. She did not have too much the matter with her; indeed, it was apparent that she had really just called in to pay her respects to Mr. Furlong. Having passed the time of day, she departed, leaving David Lee somewhat puzzled as to why she had such a thick folder of orthopedic notes. These related to her time as a child and early teenager when she had been seen by many of the distinguished colleagues of the day, including several well-known opinions in Harley Street, whose letters of explanation often ran to a page or more. David Lee eventually came across the Furlong contribution, which merely amounted to a single line: "Doesn't want to be a butterfly in the school pantomime." It was of course a case of teenage anterior knee pain compounded by the problems of being a teenager. Furlong stories were legion. I never knew him miss a case of alcoholism; "My boy,"—all registrars were referred to as boys—"if a spouse specifically requests a single room for her/his husband/wife you can with confidence write down 'alcoholic'." His

memorable phrases, combined with a sharp diagnostic acumen, made Furlong a fine teacher. Consider the case of the 16-year-old boy found languishing under the chest physicians for 6 months, with the physique of a 10-year-old, hormones all awry and scattered bone cysts. The answer—miliary tuberculosis. Why? "Two elephants (in this case three) parading down the Strand are likely to belong to the same circus."

With his turn of phrase and ready wit he was a brilliant teacher of undergraduates. Personally, I resolved to become an orthopedic surgeon following my first Furlong outpatient session as a student. Seminar sessions and problem case learning were not the order of the day but "theater" was. The outpatient teaching room in the old Victorian south wing was indeed like a theater with banked rows of seats. The finalists sat in the front with the rest of us behind. Enter then this broad, elegant, imposing man, an object flew across the room toward the captain of rugby, accompanied by the cry "Catch it." "What is it?" "A patella, sir," came the reply. "That, my boy, is the nearest you'll get to a Nightingale knee for the next two hours!" The only surprising thing to me was that all St. Thomas' students didn't take up orthopedics. However, in the early 1960s, everyone thought orthopedics was going out of business. Antibiotics would clear tuberculosis and vaccination would remove polio, while trauma was still largely treated conservatively. Those who wanted to do proper surgery would go for general surgery, for it was the age of pursuing cancer cells with a knife. How wrong they were; orthopedics was about to change, for joint replacement was arriving.

The 1950s and 1960s had seen Ronnie Furlong achieve "clinical excellence." An ordinary man would have been well content with what he had achieved and would have looked forward to retirement 5 or 6 years down the line, for RJF, as he was often known, was approaching 60. Two factors were to be the spark; one was emotional, the other professional. Ronnie Furlong lived for orthopedics, indeed I doubt if there was a single day in the 70 years in which he practiced that orthopedics did not govern his way of life. If he went abroad it was to see some distinguished colleague and if he stayed at home, he would sit and think. However, he required a soulmate who was equally dedicated. He found such a person in his third wife, Eileen. It was a partnership that achieved great things together: the formation of the joint replacement instrumentation (JRI) company; the first hydroxyapatite-coated hip, inserted on September 9, 1985, when Ronnie Furlong was 77; the opening of a factory in Sheffield with its remarkable expertise in high-tech coatings; and the Queen's Award for Technical Achievement in 1993. To obtain this award you not only have to have the ideas but are required to show these are economically viable and can generate an export industry. It is an extraordinary achievement for a surgeon to form a company that is the recipient of this award.

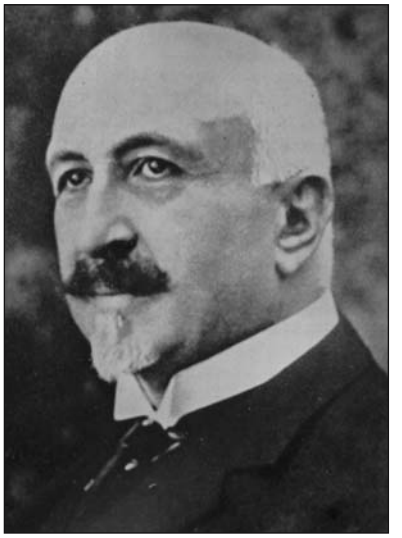
The last 5 years of his St. Thomas' career had been the period of enlightenment. Ronnie Furlong had a great respect for Charnley, with whom he had served in the war, but he did not feel comfortable with a 22 mm femoral head. He tried the McKee, but inserting the large socket seemed too destructive. He did not take to the Ring. The 32 mm head of what was then called the Müller–Charnley seemed to him a practical solution. His surgical eye was also attracted to the Müller instrumentation. So began another voyage of discovery on the continent. However, he was not satisfied purely with technique; he wished to understand the theory. This took him in search of Pauwels, much as many years before, he had searched for Küntscher, only this time language, not war, was the problem. As we have already noted, he was to master German without difficulty, just as he was to master the knowledge of biomechanics. For those of us working in St. Thomas', it was a remarkable period, for not only was it the first UK hospital to do the Müller hip, but the second to adopt the AO system of fracture fixation (Batten of Birmingham was the British pioneer of AO), and the second UK hospital to do a knee replacement (Michael Freeman at the London Hospital was the first; while at St. Thomas' we took up the Gunston). All this was done with a staff of two consultants, two senior registrars and a registrar, with two other senior registrars on rotation to Southampton and New York and one other registrar on rotation to the Princess Margaret Hospital in Swindon. It was certainly an exciting time to learn orthopedics.

The final phase of Furlong's career, the era of originality and creativity, was to last a very long time. Joint Replacement Instrumentation, known by its initials JRI, grew out of necessity, his mother-in-law declaring that, while her son-in-law could be arrested for importing contraband, at her age she had no wish to join him and that "In future, neither I nor my skirt will be employed to cover illegally imported Müller replacements."

Up to that point, the eccentric method of restocking St. Thomas' was as follows: Jim Lovegrove, RJF's loyal theater assistant, would announce: "The stores are getting low." RJF would then inform the team that he would be absent from the next clinic while the Mercedes, wife Eileen and mother-in-law were driven at speed across Europe to Berne. The return journey was nonstop, especially through customs! If they had been apprehended, the resulting court case would have been legally interesting, for St. Thomas' never paid for the implants, which were therefore charitable gifts from RJF himself.

Joint Replacement Instrumentation gradually metamorphosed from an import company to manufacturing. Interestingly, the first implant it made was the Gunston knee. The first implant to carry the Furlong name was the straight stem hip replacement, which has several features in common with the Exeter hip. The Furlong HAC hip was quite different and, while some hold that "the jury is still out," the evidence to date in the opinion of this author is that it will not only stand the test of time but will prove a major orthopedic milestone. It is a combination of British design, technical expertise and metallurgy with German chemistry. The late Dr. Osborn was a German maxillofacial surgeon and, as is so often the case, new materials in orthopedics have once again entered via our "dental" colleagues. Needless to say, in characteristic Furlong style, the inspiration for the design, with its proximal fill to control rotation and its intramedullary stem, came not from expensive testing in biomechanical laboratories but from observation of a glass stopper in a wine decanter in RJF's sitting room! The story of JRI, the glossy adverts, the Sheffield factory plus the Queen's Award are very well recorded in the obituary published in *Orthopedic Product News* (October 2002).

Ronnie Furlong fully deserves the accolade of "Master Surgeon," for he was a fine diagnostician with great technical skill. He had flair, charisma and, in addition, late in life displayed remarkable originality. As Professor Müller once remarked, "Ronnie, we all stop but you go on and on." His ideas on fixation and hip replacements will remain a landmark even when technology advances. He was a great European surgeon, a great British surgeon and to undergraduates and graduates alike, a great St. Thomas' surgeon.



Riccardo GALEAZZI

1866–1952

For 35 years Professor Galeazzi was Director of the Orthopedic Clinic in the University of Milan, and his example and leadership, both in clinical surgery and in research, were a tremendous stimulus to orthopedic progress throughout Italy. Under his guidance, the Instituto dei Rachitici grew from small beginnings to become an important orthopedic hospital, and his influence was largely responsible for the inception and development of rehabilitation centers for the care of the crippled and injured.

His many scientific writings testify to his erudition and wide culture; especially to be remembered is his great work on scoliosis, to which he devoted a large part of his professional life. Notable also were his studies of skeletal tuberculosis, acute arthritis of infants, and juvenile osteochondritis. He made contributions to the treatment of chronic arthritis of adults, to the pathology of osteitis fibrosa, and to the pathogenesis of achondroplasia. He made experimental studies on bone grafts and on epiphysial cartilage transplants, and he was able to review more than 12,000 treated cases of congenital dislocation of the hip. In the field of operative surgery, he introduced original techniques for the treatment of poliomyelitic disabilities, congenital foot deformities, recurrent dislocation of the shoulder and of the patella, and torn cruciate ligaments of the knee.

Among his many activities he found time to direct for 35 years the *Archivio di Ortopedia*, the

oldest periodical devoted to orthopedics and for many years the official journal of the Italian Orthopedic Society.

Galleazzi's work was recognized by the conferment upon him of many honors, both in Italy and in many foreign countries. And his great friend and admirer Vittorio Putti collected together a number of important scientific papers in a volume dedicated to his honor.

Alfred Baring GARROD

1819–1907

Sir Alfred Baring Garrod of London was an eminent physician. Most of his professional life was devoted to the study of gout. His first book in 1859 established his interest in the field, but his views were established in the more readable third edition of 1876. Gout was known to the ancients and to physicians in all subsequent centuries. Garrod reviews the history of the great writings quite comprehensibly in the first chapter of this book. It was with the publications of this classic volume that the modern concept of gout began. It was Sir Alfred's son, Sir Archibald Edward Garrod (1857–1936), who later started modern rheumatology theories with his division of the arthritic syndrome into rheumatoid arthritis and osteoarthritis.

Phillipe C.E. GAUCHER

1854–1918

Phillipe C.E. Gaucher, a leading French physician at the turn of the century, described the disease since named after him in 1882 but was not aware of possible bone involvement. Later Pick and Stout published pathologic material demonstrating bone lesions. Others followed and some cases involved hips.

Alexander GIBSON

1883–1956

Born in Edinburgh, Scotland, in 1883, Alexander Gibson received a classical education. At the University of Edinburgh he established a remarkable record: he was the first student in the history of the University to earn all the scholarships available to him during his courses, and in 1908, he graduated MB, ChB, with first-class honors. These high standards of scholarship were maintained throughout his whole life.

Having obtained the FRCS (England) in 1913, he came to the University of Manitoba as Professor of Anatomy, a position that he held until 1920. Following this period he began his career in orthopedic surgery and was associated for several years with the late H.P.H. Galloway. Later, as Associate Professor of Surgery, he was responsible for orthopedic teaching in the University of Manitoba. His remarkable lectures on applied anatomy made a distinct contribution in bridging the gap between the basic sciences and the clinical field.

His hospital appointments included: Orthopedic Surgeon, Winnipeg General Hospital; Director of the Department of Orthopedic Surgery, Deer Lodge Hospital, Department of Veterans' Affairs; and Consultant to the Sanatorium Board of Manitoba.

During World War I, Gibson was active as a surgeon in the Royal Army Medical Corps in India and Egypt, and World War II found him again in service as orthopedic surgeon in charge of Hermeirs Red Cross Hospital in Scotland.

Many honors were bestowed upon him, the chief of which were: Fellowship in the Royal Society of Edinburgh in 1917; Presidency of the Canadian Orthopedic Association 1949–1950 (original member); Lecturership in Surgery at the Royal College of Physicians and Surgeons of Canada (1954); Charter Member and President of the Winnipeg Medico-Legal Society when this Society was formed; Fellowship in the American College of Surgeons and later Senior Membership in the American Academy of Orthopedic Surgeons; Member of the American Orthopedic Association; Member of the Scientific Club of Winnipeg; and Life Member of the Winnipeg Medical Society.

Before permitting publication of any material, he applied a rigid formula: "No one has any right to publish unless he has something to say and has done his best to say it aright." His 77 publications, the last presented the evening before his death, exemplify this resolve. These "presented uncommon clarity of mind and lucidity of language which enabled him to make the complicated simple and the chaotic orderly."

A number of his publications are of lasting significance. The "fish-tail graft" introduced the principle of an interlocking graft in spine fusion. Probably his most significant contribution was the "posterolateral approach to the hip joint," now widely used by orthopedic surgeons. He preferred to call this a "modified Köcher incision," although it was original in concept.

Arthur Bruce GILL

1876–1965

Arthur Bruce Gill was born of Scotch ancestry on December 12, 1876, in western Pennsylvania, at Greensburg. He received his BA degree in 1896 at Muskingum College in Ohio, from which college, 42 years later, he received an honorary Doctor of Science degree. He received his MD degree at the University of Pennsylvania in 1905. He interned at the Presbyterian hospital in Philadelphia, with which institution he was associated for 47 years, for many years as Chief of the Orthopedic Service. The well-known surgeon, Dr. Ashley P.C. Ashurst, of the Episcopal Hospital in Philadelphia, first talked to Bruce about going into orthopedics, but it was Dr. Gwilym G. Davis who convinced him he should be an orthopedic surgeon rather than a general surgeon. In 1920, he succeeded Dr. Davis as the third Professor of Orthopedic Surgery at the University of Pennsylvania, which position he held until 1942. He was on the staff of the Philadelphia Orthopedic Hospital from 1908 until it merged with the University of Pennsylvania in 1941. In 1911, he became an assistant surgeon at the Widener Memorial Industrial School for Crippled Children in Philadelphia, which had been founded by Dr. DeForest Willard, the University of Pennsylvania's first Professor of Orthopedic Surgery. In 1920, Bruce became its chief surgeon, a position that he held until the school closed in 1942. For a long period of years he was on the staff of the Children's Seashore House at Atlantic City, the oldest crippled children's convalescent home in the United States; he was its chief surgeon from 1938 to 1943, and was on its board for many more years. During the war years, from 1942 to 1945, he was Surgeon-in-Chief of the Alfred I. duPont Institute of the Nemours Foundation in Wilmington, Delaware, and from 1946 to 1958, he was an active member of the Medical Advisory Board of this Institute.

Bruce Gill was always interested in the care of the crippled child; he held state clinics in central Pennsylvania during the whole of his active professional career. He was Chairman of a Joint Committee on Crippled Children of the American Academy of Orthopedic Surgeons, the American Orthopedic Association, and the American Medical Association from 1942 until 1952. From 1942 to 1950 this committee was called the Committee for the Study of the Public Care of the Indigent Orthopedic Cripple and then, from 1951 to 1952, the Committee on the Public Care of Crippled Children. He was a member of the Advisory Committee on Crippled Children to the Federal Children's Bureau for many years. He was at one time Chairman of the Committee on Legislation and Medical Economics of the American Academy of Orthopedic Surgeons and of the Committee on the Treatment of Infantile Paralysis of the American Orthopedic Association. Bruce was always interested in education and research: he was Chairman of the American Orthopedic Association's Committee on Undergraduate Education for many years. In 1948, under his chairmanship, a very successful symposium on undergraduate education was held at the Joint Meeting of the British, Canadian, and American Orthopedic Associations in Quebec.

Bruce was a member of Alpha Omega Alpha and Sigma Xi honorary fraternities. He was an honorary member of the Ambrose Paré Society of France, of the Pennsylvania Orthopedic Society, and of the Orange County (Florida) Orthopedic Society. He was a member of the Philadelphia Academy of Surgery, the oldest surgical society in the United States, the Philadelphia Orthopedic Club, of which he was a president, an active fellow of the College of Physicians of Philadelphia, and a member of the International Society of Orthopedic Surgery and Traumatology, as well as many other scientific societies.

Bruce was not a prolific writer, but whatever he wrote was extremely clear and well prepared. There are 69 publications listed under his name in the *Index Medicus* and *Quarterly Cumulative Index* from 1912 to 1949. Sixteen of these publi-

cations are related to congenital dislocation of the hip; six to coxa plana and other conditions of the hip; six to the hand; four to cerebral palsy; four to poliomyelitis; four to the foot; and 29 to other subjects.

The name of Gill is attached to six original surgical procedures: an operation for Dupuytren's contracture in the hand (1919); a check ligament operation for a paralytic genu recurvatum (1931); a fusion of the shoulder (1931); a posterior bone block operation of the ankle for foot drop (1933); a plastic reconstruction of the acetabulum (shelf operation) (1935); and a wrist fusion (1947). Bruce is credited with being the first in the United States to have performed and reported on the results of Stoeffel neurectomies for spastic paralysis (1918). One of his best publications, "The Kenny Concepts and Treatment of Infantile Paralysis," written in 1944, was an answer to many of Sister Kenny's misleading statements and unwarranted conclusions on the treatment of poliomyelitis. This article was a classic and its preparation gave him great satisfaction.

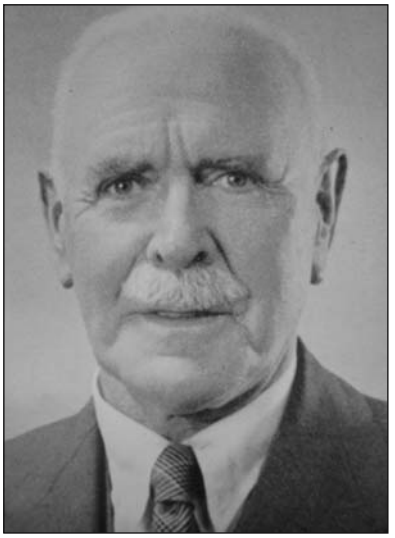
Bruce was extremely well known for his work on congenital dislocation of the hip, and was considered by many to be one of the foremost authorities on this subject in the United States. He believed firmly that every dislocated hip that had a shallow acetabulum after reduction should have a shelf operation—not only to give stability during the growing period, but also to decrease the possibility of osteoarthritis in later life. He also advocated a shelf procedure for the large femoral head, not well seated in the acetabulum, that often accompanies a coxa plana. For the paralytic hip dislocation, he frequently advocated fusion.

Although Bruce made many outstanding contributions to surgical procedures in orthopedics, he fully appreciated the nonoperative aspects of the specialty. He wrote that our "specialty was founded in the spirit of conservatism." In his Presidential Address to the American Academy of Orthopedic Surgeons in 1938, he spoke of using a knife only as a last resort and asked the question, "Are too many operations performed in the practice of orthopedic surgery?" Since the skillful use of the knife has become a distinguishing talent and criterion of the great surgeon, he said that there has been a growing tendency to neglect, to delegate to persons who are not members of the medical profession, and even to discard, in time, all arts of surgery but the use of instruments and mechanical apparatus. He spoke of there being a spirit of unrest in the specialty and a tendency for the rapid adoption of newer methods that promised much but had not yet stood the test of time. He mentioned that there was a tendency to neglect the study of the fundamentals of surgery and to place "our sole reliance on methods and fads and gadgets."

In his Presidential Address before the American Orthopedic Association, in 1944, he expressed concern over the trend at that time toward an increase in the government control of the practice of medicine; he spoke of greater paternalism in Washington, leading to totalitarianism, and mentioned concentration of too much power in the hands of the chief executive. He proposed several significant questions, such as whether extension of government control would improve medical services, whether this improvement could be accomplished by other agencies, whether it is consistent with our form of government, and whether this is conducive or detrimental to the welfare of the nation.

Bruce was always an enthusiastic golfer and bridge player. He was a charter member and president of the Doctors' Golf Club of Philadelphia and also a charter member and president of the Inter-hospital Bridge Club. Bruce was one of the organizers of the Golfing Players of the American Orthopedic Association, which for many years was responsible for the Association's golf tournaments. In addition to golf and bridge, his hobbies were swimming, chess, classical music (which he often played on the piano), the writing of poetry, and in his later years, lawn bowling.

In 1936, Bruce married Mabel Halsey Woodrow, a wonderful and talented person, who could not have been a more devoted and understanding wife. They had no children. In 1953, he retired from active practice in Philadelphia, and in 1955 went to Mt. Dora, Florida, to live. Here, in a small but most comfortable and attractive home in Florida's lake region and citrus belt, Bruce passed the last 10 years of his life. After he went to Florida, most of his summers were spent in the North Carolina Mountains outside of Asheville. It was here he was taken with his last illness, a severe heart attack, and died on November 7, 1965. A great orthopedic surgeon had passed on.



Gathorne Robert GIRDLESTONE

1881–1950

Gathorne Robert Girdlestone was the son of the Rev. R.B. Girdlestone, Honorary Canon of Christ Church, Oxford. He was born in 1881 and was educated at Charterhouse, at New College, Oxford, and at St. Thomas' Hospital. After his house appointments at St. Thomas' he settled in Shropshire at Oswestry and there came under the influence of Sir Robert Jones, an influence that was destined to shape the whole of his career. From Robert Jones and Agnes Hunt he learned—in the hospital that was later named after them—that orthopedics was much more than a branch of surgery. The orthopedic hospital was to be not merely a place to which patients came to seek relief, but rather a center from which workers went out into neighboring towns, villages and hamlets to discover those who were too far away, poor, ignorant or apathetic, to seak treatment for themselves or for their afflicted children. Diagnosis and treatment of established complaints was the first objective, but the ultimate aim was the detection and arrest of crippling conditions before deformity or other serious disability had had time to develop. It was some years before Girdlestone was able to apply what he had learned from these two great pioneers; but he had a profound conviction of his mission, and when the time came he rose rapidly to a unique position in British orthopedics. He was the great missionary of regional orthopedics with its central orthopedic hospital, satellite clinics and unified staff.

During the First World War he was prevented from serving overseas by the effects of a serious chest injury, the result of a motor cycle accident. However, he was placed in charge of the orthopedic division of a military hospital in Oxford, which rapidly developed until there were some 400 beds under his care. At this time, the Wingfield Convalescent Home was an old-fashioned institution in the neighboring village of Headington; thanks to Robert Jones, Girdlestone was later able to take charge of some army huts, which were erected in the grounds of this convalescent home. In 1919 the Wingfield Hospital, to give it its new name, came under the Ministry of Pensions, but provision was made for crippled children to be treated in one of its wards. In 1922, the whole hospital was transferred by the Ministry to the Wingfield Committee and Girdlestone was thus provided with the instrument which, until the end of his life, he wielded with such astonishing success.

Immediately after the war, Robert Jones and his staunch disciple launched their campaign for the establishment of regional orthopedic services, and in 1920 they organized the Central Council for the Care of Cripples, of which Girdlestone was for some time joint honorary secretary. By 1925, his own experience in the three counties of Oxfordshire, Berkshire and Buckinghamshire was such that he was able to write with authority on how a regional scheme should be run, and it is significant that 20 years later, when the writer had occasion to correspond with people in certain colonial territories who were interested in orthopedics, he found it expedient to lay hands on the few remaining copies of Girlestone's monograph and send them overseas with the advice that no better guidance was obtainable anywhere. Girdlestone's appointment to the staff of most of the general hospitals in the region—the Radcliffe Infirmary being the most important—and his establishment of clinics in smaller centers, enabled him to build up so complete a service that the benefits of orthopedic surgery were available to almost everybody in the region. The work was done by the Wingfield staff, and permanent copies of all case notes were filed at the hospital. It was the Oswestry scheme all over again but with everyone concerned working full time and under one head. In this great undertaking he was loyally assisted by W.B. Foley, J.C. Scott and a number

of other able men who worked with him for longer or shorter periods. In addition to this strong central administration, there was also a very clear direction of therapeutic policy, and the team worked on well-defined lines, which became more widely known as a result of the many papers that Girdlestone contributed to the literature of orthopedics.

He was not only an outstanding organizer, but a surgeon of great dexterity. His operations for Pott's paraplegia, hallux valgus, osteoarthritis of the hip and claw toes were particularly valuable contributions. Girdlestone was always interested in operative technique and every detail was worked out with extraordinary thoroughness. It was a healthy discipline and, after a time, a pleasure to work in his well-run theaters. In his endeavors to eliminate infection at operation, no possible factor escaped examination; he enlisted the aid of R.B. Bourdillon in determining the part played by aerial contamination and the results of that work will undoubtedly have a profound influence on the question of the ventilation of operating theaters.

In 1930, Lord Nuffield (Sir William Morris, as he then was) became attracted by Girdlestone's work and, through the generous aid of that great benefactor, the old huts were replaced by modern buildings, which incorporated features over which Girdlestone had pondered so carefully and for so long. It was Girdlestone who encouraged Lord Nuffield to interest himself still further in British medicine, with results that are now well known. The Oxford Medical School benefited to the extent of two million pounds. In 1937, at Lord Nuffield's request, Girdlestone visited South Africa to prepare a scheme for the development of orthopedic surgery in that vast dominion; and the national Council for the Care of Cripples in South Africa was the result of this visit. In the same year, Girdlestone was appointed Nuffield Professor of Orthopedic Surgery, this being the first chair in the subject in the British Empire. He resigned this appointment at the beginning of the Second World War and devoted himself to more urgent work; he was a regional orthopedic consultant in the Emergency Medical Service and honorary consultant to the army and to the Ministry of Pensions. In 1942 he was elected President of the British Orthopedic Association; in 1948 he applied his unparalleled experience to the formulation of a plan for regional orthopedic and accident services within the framework of the new National Health Service; and in 1949 he achieved the integration of all the activities coming under the heading of orthopedics in the Oxford region in what was called the Nuffield Orthopedic Centre, which was endowed by Lord Nuffield with a sum of £50,000. This was the cornerstone of the edifice to which he had dedicated his life.

A catalogue of his achievements, even a complete one, would, however, be an imperfect tribute; the character of the man himself was no less remarkable. Girdlestone had all the charm, the piety and some of the haughty individualism of an Elizabethan. He was a devout Christian and his patients knew it; when professional skill had reached its limits, his sympathy and concern for their future gave fresh confidence and hope to those who were permanently disabled. Yet his belief in his mission was so intense that he sometimes alienated those whose ideas did not correspond precisely with his own. In pursuing any scheme on which he had set his heart, he was indefatigable and quite fearless; he was no trimmer. But for his insistence there would have been no chair of orthopedic surgery at Oxford; yet he sought it not for himself but only for the advancement of orthopedics. Oxford owes the Churchill Hospital to Girdlestone's efforts; the obstacles to this achievement would have broken the spirit of many men. It was he who was chiefly responsible for installing that gallant little company of American surgeons who formed what was called the American Hospital in Britain in this new hospital, with buildings and facilities that, for the time being, they could call their own.

There were occasions in the affairs of the Wingfield when his committee, devoted to him as they were, had to tell him that there was no money for some addition that he wanted; on more than one occasion his answer was that he would pay for it himself—and he did.

The hospital was an extension of his home life, which was made idyllically happy by his wife Ina. They had no children—their family life was the Wingfield. At a few minutes before nine (half-past eight for operations), Girdlestone's handsome upright figure appeared on the path between his house and the hospital, and the place sprang to its ordered life like an orchestra under the baton of a conductor. He knew all the older members of the staff by name, he had a friendly word for everyone (sometimes one of fatherly reproof) and there were many who at one time or another had been

helped by him in some serious personal difficulty. He was not a philanthropist in the ordinary sense; his horizon was not a wide one; he was not a member of societies for improving this and that. But in his chosen sphere his intense zeal was matched by his generosity. There were occasions when someone connected with the Wingfield was in need of money, and more than a small sum. The usual deliberations provided no solution. Then Girdlestone would say that he was trustee of a fund that could be drawn on in such circumstances and that the matter could be left to him. The source of the fund was never disclosed; it was sometimes suspected that he sought help from Lord Nuffield, but it was a nearer guess that he himself provided the money. It was not, therefore, surprising that the hospital had an esprit de corps that was apparent even to the casual visitor. Girdlestone used to refer very frequently to the Wingfield spirit—it sometimes became rather an old joke—but it was a very real thing, an influence that made for happiness and good work, and it was felt throughout the region.

There is a tendency, a natural and a proper one, for eminent men gradually to enlarge their spheres of activity; it would be unfortunate if it were otherwise, for the State and our profession must be able to command the services of and receive guidance from men of exceptional intelligence and experience. The price to be paid for work in a wider field, and paid often with sorrow, is the abandonment of many local interests, which the passage of years and old associations have made peculiarly sweet. Girdlestone chose otherwise and for him the choice was right. He knew what he could do well and he stuck to it; in his own line of work he was as confident and superbly skillful as in the two games he played (he was outstanding at tennis and golf and reached the semi-finals in a competition at St. Andrews only a few months before he died). He directed all his energies to the development of his hospital, his region, the scheme that they embodied, and the link he had forged with his university. His influence extended far and wide, but it was chiefly in virtue of what he did in Oxford. G.R. Girdlestone died on December 30, 1950.

Girdlestone's entry into the field of orthopedic surgery was an accident of circumstance. He had become a general practitioner surgeon in Shropshire and went to Baschurch first as a spectator and later to assist at operations. It was not long before his own natural pioneer spirit, inspired by the work of those two great personalities, Agnes Hunt and Robert Jones, convinced him that orthopedic surgery was to be his life work.

In appearance he was a striking figure—tall, handsome and with a beautiful voice. His many contributions to the literature of his subject were expressed in delightful prose; they bore the mark of wide reading and of a cultivated mind. He was also a devoted listener to classical music. He shared all these tastes with his wife in an idyllic partnership; but there was also another Girdlestone—a natural player of ball games, a golfer with a beautiful style, which remained with him almost to the end. He won the Irish Amateur Championship after leaving Oxford and he might have gone far if his busy professional life had not claimed the larger part of his reserves of energy.

No memoir of this man of high quality—one of the most distinguished surgeons of his generation—would be complete without reference to the deep religious convictions that sustained him in all his work. This was a Girdlestone known to a host of witnesses.

Denis Joseph GLISSAN

1889–1958

Denis Glissan was one of the pioneers of orthopedic surgery in Australia—one of the first three Australians who trained in orthopedic surgery and who specialized in this field in Australia after the First World War. Before that there was

one orthopedic practitioner, a German; Gordon Craig and Robert Wade of Sydney did a certain amount of orthopedic practice as part of the general field of surgery; and Kent Hughes of Melbourne found a curious common interest in otolaryngology and orthopedics. Not until the First World War did a real interest in orthopedic surgery arise in Australia, and the first men to devote themselves entirely to it were all disciples of Robert Jones.

Denis Glissan was educated at Riverview and Sydney Grammar School. After graduation in Sydney he served as a Resident Medical Officer at Goulburn Hospital, and then for a short time pursued an assistantship in country practice. In July 1915 he enlisted and served for 4 years in Gallipoli, Sinai, France and England. He was one of the small group of men selected from the Australian Army Medical Corps for special orthopedic training in England, and learned his first principles at Alder Hey Military Hospital at Liverpool. He returned to Australia in 1919 and thereafter served on the honorary staff of the Royal Prince Alfred Hospital and of St. Vincent's Hospital for over 20 years.

In the Second World War, he was the first orthopedic surgeon to be appointed to the 113th Military Hospital at Concord, and he gave to it 5 years of unremitting work. He was a foundation Fellow of the Royal Australian College of Surgeons, a founder member and for 2 years President of the Australian Orthopedic Association. Perhaps the body that owes him the greatest debt is the Australian Occupational Therapy Association, of which he was a founder and for some years President.

Lennox Teece writes:

At St. Vincent's Hospital he was senior honorary surgeon of the orthopedic department which he built up from nothing to its present pitch of efficiency. He set the standard of work on a firm, rational basis, avoiding the showy and the ephemeral. Many young men and several of the present honorary staff owe him a debt of gratitude for their early training. It is to some considerable extent due to him that the speciality of orthopedic surgery in Australia today is accorded a high standard of public and professional respect. His tireless energy and enthusiasm established the Australian Occupational Therapy Association on its present firm footing. As a surgeon he was conservative and a perfectionist. He was not to be led astray by some widely acclaimed new procedure or by ill judged enthusiasm. Everything had to be tried and tested. His meticulous attention to detail was largely responsible for the high standing of his surgical results. Time meant nothing to him. At hospital his operation list would be completed no matter what the hour, and at the end of a long afternoon he would be the freshest person of the whole theater staff. He had no mercy for laziness, inefficiency or carelessness, and was not slow to speak his mind when he encountered these shortcomings. He devised an effective operation for extensor contraction of the toes and saw it widely adopted throughout the orthopedic world. He was a man of quiet and unassuming manner; his friends were many and of long standing; yet in addition he enjoyed the respect of his junior colleagues.

John Hoets writes:

My acquaintance with D.J. Glissan began between the first and second world wars with a friendship which became cemented with a real regard for his professional work. His students spoke with affection and reverence of his insistence on correct methods. I personally came under his professional care at that time; I can speak with gratitude and with respect for his discipline and after-care of wounds. I worked with him at 113th Military Hospital at Concord where, in addition to routine visits, every Sunday morning we met together and talked over the problems of our patients. It was a very happy association though pretty hard work and I was impressed more than ever with his meticulous and thoughtful care of patients.

A.F. Dwyer writes:

When Dinny Glissan was forced to retire from practice, orthopedic surgery in this country lost not only one of its pioneers, but also one of its most original minds. Very few men had as deep an understanding of the form and function of the human foot, and it is a pity that his illness prevented him from writing the monograph he intended. His originality in outlook and technique showed themselves in his highly original solution to the problem of the old, completely avulsed capsulotendinous cuff of the shoulder. He was the first to realise the usefulness of the transradiancy and malleability of aluminium for splintage and devised many ingenious ways of using it. He tried to enrol at the Technical College but lacked the necessary union card; but he did become an authority on the use and care of wood-working and metal-working hand tools. A natural teacher, he left his stamp on generations of house surgeons. Irascible in temperament yet patient in demonstration, he impressed on all the importance of methodical clinical work and operative technique, down to the smallest details of nursing. His last years were saddened by confinement to a bed and a wheelchair. Only those who knew his restless temperament realised the frustration he suffered and the genuine fortitude he displayed.

H. Jackson Burrows writes:

Dinny Glissan was a perfectionist, who looked for this quality in his patients and in his assistants. They were left in no doubt when they failed to rise to his own high standards. He held strong principles, and when these were at issue he was formidable indeed. Yet he had the kindest, gentlest and most generous character—with a sense of humour—that made him the most lovable of men. He both gave and inspired loyalty. His integrity was complete. Everything interested him, particularly natural history in a land richly endowed. He had a rare command of the mother tongue, and his letters were a joy to read because of the grace of their construction and perfection of their vocabulary. He was most happily married to a devoted wife, who shared the tribulations of the illness that clouded his last five years.

Denis Glissan died on May 19, 1958.

Sir John GOLDING

1921–1996

John Golding was born in London and educated at Marlborough College, Cambridge University and the Middlesex Hospital, where he was influenced by Philip Wiles. Military service took him to Egypt and he later worked at the Royal National Orthopedic Hospital. In 1953 he was appointed Senior Lecturer in Orthopedics at the new University College of the West Indies. A year later the major epidemic of polio started. His handling of this disaster guaranteed success for many future ventures.

He became President of the local Medical Association, ABC Traveling Fellow to North America in 1956 and Hunterian Lecturer of the Royal College of Surgeons of England in 1956. He was appointed OBE in 1959, and traveled to Africa in 1961 as Nuffield Traveling Fellow.

In 1965 he was appointed to the Princess Alice Chair in Tropical Orthopedics and Rehabilitation. He was Secretary General of World Orthopedic Concern and on the board of Orthopedics Overseas. He ran the Jamaican wheelchair sports team. In 1984 he received an Honorary Doctorate from the University of Toronto. He received the Order of Jamaica and was knighted in 1986. He was the Lipmann Kessel Traveling Professor to the Third World in 1990 and was currently Chairman of the Caribbean Medical Research Council. He wrote on many subjects including sickle-cell disease, bone infections and tibia vara.

John believed that an operation was but an incident in a patient's life. He worked on all aspects of a person's recovery. He started schools for the handicapped, initially for those with polio and paraplegia, a company to employ the disabled, a farm for the handicapped, a Cheshire village, a fairground to employ the handicapped and to raise money for a rehabilitation center, a prosthetics and orthotics center, a physiotherapy school, a wheelchair sports program, and a hospice. In addition, he initiated the introduction of safe driving laws and legal aid for the injured. He had a unique ability to see what was needed, to find like-minded people and to set things in motion despite the economic woes of Jamaica. He wrote that "The greatest of all mistakes is to do nothing because all we can do is a little."

He initiated projects with great enthusiasm and they developed a momentum of their own. For example, the school at Mona began in a wooden refugee camp; today it has 2,000 students and has been taken over by the university.

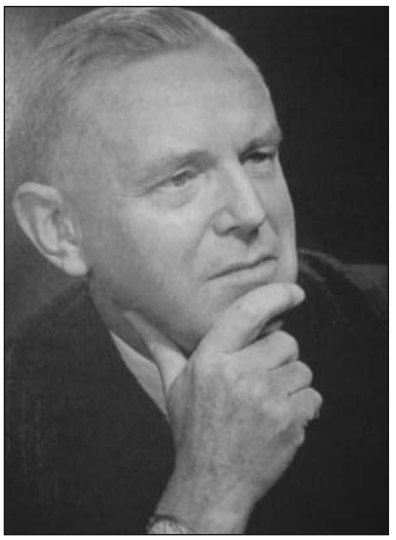
John was a dynamo. He was an early riser and wrote letters for a couple of hours before visiting the rehabilitation center between 7 and 8 a.m. He would then go on to the university to attend clinics, to do undergraduate teaching and to operate. Patients knew and loved him as both friend and doctor. All day he was networking. He described his sense of the orthopedic obligation in an editorial entitled "Religio medici 1994" in the December 1994 issue of the American volume

of *The Journal of Bone and Joint Surgery* (1994; 76-A: 1759–1763).

John Golding was a kind, charming, witty man, informed about everything. His prodigious memory kept paperwork to a minimum and provided a constant supply of entertaining stories. People enjoyed working with him on projects. He had a novelist's perception of character, which enabled him to find people in the community to help. The projects all grew out of the community's needs and it was the community that achieved them—steered by John.

After taking his grandchildren to the zoo, John Golding came home, collapsed and died. A state funeral followed and all Jamaica stopped for the day. This remarkable man had been a hero in Jamaica since 1954 when he coped with a polio epidemic and with its aftermath. His kindness, enthusiasm and ability to carry things through were held up as a national example.

He leaves his wife Patricia, his son Mark and daughter Anna, together with thousands of friends and patients who are better for having known him.



David Lloyd GRIFFITHS

1908–1997

I was born in 1908 in Wales, of Welsh parents, and brought up as monoglot English, which I remedied as soon as possible. In 1917 we moved to Manchester, and I was educated at William Hulme's Grammar School, of which I eventually became Chairman of the Governors. I graduated from Manchester University in 1932 and became FRCS (England) in 1935; I was a Hunterian professor in 1940.

After chance meetings with Robert Jones, I was determined to become an orthopedic surgeon and joined the orthopedic unit of Manchester Royal Infirmary, where I came under the influence of Harry Platt and Henry Osmond-Clarke. From 1942 to 1946, I served in the Royal Army Medical Corps as an orthopedic specialist, and in 1945 I was appointed MBE (Military), an honor which, as a Welsh nationalist, I tried to refuse, only to find that refusal of military "honors" is, apparently, impossible.

After demobilization, John Charnley and I were appointed honorary orthopedic surgeons to Manchester Royal Infirmary. I also joined the staff of the Robert Jones and Agnes Hunt Orthopedic Hospital in Oswestry. In 1952, I was appointed director of the University Department of Orthopedic Surgery in Manchester Royal Infirmary. I retained this office and my post at Oswestry until 1973, when I retired to the village of Eglwysbach, where I have been able to pursue my interests in Welsh culture with great happiness.

My career in Manchester was a partial failure. I had hoped to re-establish a first-class academic department but did not succeed in so doing, despite serving on or chairing all the appropriate committees. My unhappiness in Manchester, however, was fully compensated for by my great pleasure in working in Oswestry and the North Welsh clinics. There I had splendid colleagues and excellent facilities.

I published widely and a monograph on Pott's paraplegia (Oxford University Press, 1956), written in collaboration with my old school-fellow Herbert Seddon and my Oswestry colleague Robert Roaf, led to my becoming honorary secretary of the Medical Research Council subcommittee on the treatment of spinal tuberculosis. After Seddon's retirement I became chairman in 1974 and my duties involved regular travel in Africa and the Far East until 1981.

I was fortunate to be a visiting professor, guest lecturer or examiner in many countries, particularly in the Far East, and was the president's guest lecturer at the meeting of the American Orthopedic Association in 1972.

I was fortunate to have no interest in or talent for sport, and was able to devote my time to work, the Welsh language and literature, chamber music and opera. I was delighted to become a member

of the Court of the Royal National Eisteddfod of Wales.

I was considered, by my friends, to be a good surgeon but enjoyed a vastly overrated reputation as a teacher. I was also a good after-dinner speaker, another rather valueless accomplishment.

In 1939 I married Nancy Mary Webb, my dearly loved and unfailing supporter. We had three children. I have enjoyed my life and, given the chance, would do the same again.

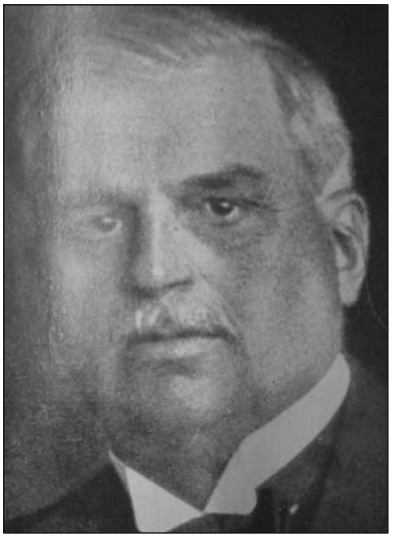
David Lloyd Griffiths (Lloyd to his colleagues) was a remarkable person with his own firm views on matters orthopedic and general. He expressed these with clarity and honesty, sometimes with ascerbic intensity, but was a stickler for accuracy of expression.

His "auto-obituary" infers that his career in Manchester left him unfulfilled, although one must doubt that assessment. He certainly had a deep attachment to Oswestry as a senior member of the "Welsh firm" in harness with Sir Reginald Watson-Jones, Rowland Hughes, Gruff Roberts, Arwyn Evans and others. His contact with rural Welsh life in peripheral clinics led to a valiant struggle with the intricacies of the Welsh tongue. The respect of his patients was reinforced by his deep knowledge of Welsh and Celtic culture and music.

He did not aspire to high office in the British Orthopedic Association but he commanded great respect internationally as a teacher, lecturer and writer. His contribution to the management of spinal tuberculosis in developing countries is a notable memorial.

His occasional eccentricity was legendary: I have seen him meandering to the operating theater from the doctor's mess dressed in a colorful kimono emblazoned with a red dragon (Welsh presumably).

He retired with Nancy to Eglwysbach in the idyllic Conwy Valley for a very happy period of vigorous community and academic activities. After he lost his beloved Nancy, he reluctantly left Wales for Cheshire. Despite deteriorating eyesight and general ill health, his spirit remained indomitable to the end.



Patrick HAGLUND

1870–1937

In its earliest stages Scandinavian orthopedic practice developed largely along German lines. Special hospitals for the treatment of cripples were set up, often under the aegis of voluntary organizations. These institutions provided not only beds and outpatient clinics but workshops, which became centers for the supply of orthopedic appliances and artificial limbs for a considerable hinterland, and were used also for vocational training. Patrick Haglund of Stockholm was for many years the recognized leader among a small and slowly expanding group of Scandinavian orthopedists. His earlier training had been in German orthopedic clinics and on returning to Stockholm he began almost single handed to create an orthopedic center in premises that consisted of a number of houses adapted for the purpose. This was the forerunner of the modern orthopedic hospital to be erected 30 years later on the site of the new medical center of the Caroline Institute—the Medical College of Stockholm. In the rear of opening of the new hospital, Haglund reached the age of 65 and thus was deprived of the joy of working in an institute to the design of which he had given so much thought. To the somewhat primitive and crowded premises of the old Vanforeanstalten, Haglund had attracted patients from all over Sweden and he made good use of this material in his writings and in the training of his assistants. Haglund was a man of high culture, widely read, and a lover of music. His monograph on the *Principles of Orthopedics*

(1923) was a scholarly work. It was written in German and no English translation ever became available. For many years the great majority of children with congenital dislocation of the hip joint in Sweden found their way to Haglund and it was this large series of cases that formed the basis of the notable survey of late results of treatment published in 1941 by a former pupil—Erik Severin. Another important contribution that came from the old clinic was the review by Harald Nilsonne of the remarkable results of cuneiform osteotomy in an unusually large series of cases of that uncommon deformity infantile coxa vara.

William Stewart HALSTED

1852–1922

William Stewart Halsted was born and raised a New Yorker. His father was a prosperous merchant and a member of the Board of Trustees of the College of Physicians and Surgeons of New York. Halsted was educated at private school in Massachusetts and spent 6 years at Andover College, from which he graduated at the age of 16 years. After another year of private schooling in New York, he entered Yale University in 1870. A good athlete, he was captain of the first official football team fielded by the school. He did not shine as a scholar. In his senior year he expressed an interest in medicine.

He entered the College of Physicians and Surgeons in 1874. This school, like the other seven medical schools in New York at that time, was essentially a proprietary school with a small faculty. Halsted became the assistant to the professor of physiology, John C. Dalton, the first American physiologist to use live animals to demonstrate procedures. Halsted graduated with honors in 1877 and spent the next 18 months as an intern at Bellevue Hospital. He was assigned to the Fourth Surgical Division where Frank Hastings Hamilton, the leading authority on fractures in the United States, was one of the two attendings. After his internship, Halsted became a house surgeon at the newly opened New York Hospital.

In the fall of 1878, Halsted went to Vienna where he attended various clinics, including those of Billroth. From Vienna he made an extended tour of surgical clinics in Germany. On returning to New York, he joined the faculty of the College of Physicians and Surgeons. He soon achieved an excellent reputation as a teacher as he slowly developed a private practice.

In 1884, Halsted began his experiments with the use of cocaine as a local anesthetic. Both he and his friend and associate Richard J. Hall eventually became addicted to cocaine. The next few years of his professional life were chaotic as he struggled with his addiction. After a wide variety of treatments, including a stay in a sanatorium, Halsted was able to resume his career, although he remained addicted to morphine for the rest of his life. His work in New York was over. In 1892, largely through the influence of his old New York friend William Welch, Halsted was appointed Professor of Surgery at the Johns Hopkins Medical School in Baltimore.

Oscar P. HAMPTON, Jr.

1905–1977

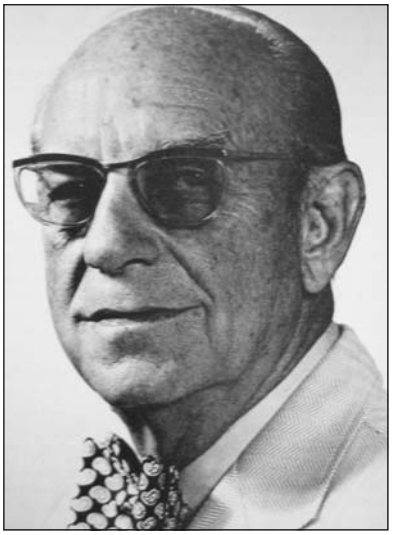
Oscar Hampton was a true son of the Old South. This was most apparent in his accent and his courtly manner. Born and educated in Nashville, Tennessee, he graduated from Vanderbilt University and the University of Tennessee School of Medicine. After graduating in 1928, he had surgical training at the St. Louis County Hospital and the Memphis General Hospital. He began his surgical practice in St. Louis in 1932. His interest in surgery of the extremities led him to limit his practice to orthopedics.

Hampton rose to prominence during World War II as the orthopedic consultant for the North African and Mediterranean Theaters. The experience gained in this role led to the publication of two books, "*Wounds of the Extremities in Military Surgery*," and "*Orthopedic Surgery in the Mediterranean Theater*." He remained active in the reserve, becoming a consultant to the Surgeon General of the army. He retired with the rank of Brigadier General.

After the war, Hampton returned to St. Louis and resumed his practice. He became a member of the clinical faculty of Washington University. He was an early enthusiast for open reduction and internal fixation of fractures. In 1959 he was coauthor with William T. Fitts, Jr., of Philadelphia, of a book, "*Open Reductions of Common Fractures*."

He was Chairman of the Committee on Trauma of the American College of Surgeons and was President of the American Association for the Surgery of Trauma in 1962.

As the Director of the Trauma Division of the American College of Surgeons, he had a significant role in trauma education and the development of programs for emergency trauma care throughout the United States.



Paul Randall HARRINGTON

1911–1980

Paul Randall Harrington was educated in the Kansas City school system and graduated in 1930, having been named one of the State of Kansas' 15 most outstanding high school graduates. He was also an outstanding basketball player in high school. He had not planned to go to college, but was offered a basketball scholarship to the University of Kansas. During his 4 years at the university he played on their basketball team, which won the Big Eight championship 3 years in a row. He was elected captain of the team in his senior year. Although his initial plan was to major in physical education, one of his track coaches recognized his potential and urged him to study medicine. He attended the University of Kansas School of Medicine and graduated in 1939, having worked his way through school by playing semiprofessional basketball. In 1936, he tried out for the national Olympic team and won the championship of his region in the javelin

throw, but he was unable to attend the finals in Chicago.

Dr. Harrington did his internship and first year of surgical residency at Roper Hospital, Charleston, South Carolina, after which he returned to St. Luke's Hospital in Kansas City, where he completed his residency in orthopedic surgery in 1942. He joined the United States Army Medical Corps and was assigned to the 77th Evacuation Hospital, serving from May 1942 to November 1945 as chief of the orthopedic service.

Shortly after his discharge from the service in 1945, Dr. Harrington came to Houston, Texas, to practice medicine. He undertook with great zeal the position of caring for the post-poliomyelitic patients at the City/County Hospital. Initially there were very few patients, but in the late 1940s the patient load increased dramatically as a result of the poliomyelitis epidemics. Through Dr. Harrington's work with Baylor College of Medicine, the Southwest Respiratory Foundation of the National Infantile Paralysis Association was established, the first such organization in the nation.

During this time, Dr. Harrington became interested in scoliosis, having realized that the current methods for treating scoliosis were inappropriate for the patient who was severely paralyzed after poliomyelitis. His initial treatment for scoliosis resulting from poliomyelitis was manual correction of the scoliotic deformity at the time of surgery, and internal fixation of each facet. This worked well initially, but the fixation did not hold. Over the next 10 years, Dr. Harrington developed the spinal instruments that bear his name. In the beginning, he would fashion the instruments the night before surgery. After surgery the next day, he would modify the design for the next patient, according to how the operation on the previous patient went. Once the basic design was developed, he had it tested extensively by the Engineering Department at Rice University in Houston, Texas, and at a commercial testing company in Chicago, Illinois. He then allowed the instruments to be sold, but initially only to those who personally had seen his technique performed.

Dr. Harrington belonged to many medical associations, and was one of the founding members of the Scoliosis Research Society. He was president of the society from 1972 to 1973. Dr. Harrington was orthopedic consultant to the United States Air Force and to the United States Army in San Antonio, Texas. During the late 1950s and early 1960s he traveled extensively, demonstrating his surgical technique, and during this time many lifelong friendships were formed. No one could associate with Paul for any great length of time without realizing the unique individual he was.

In the course of his life Dr. Harrington contributed more than 30 publications and he gave an instructional course on the treatment of scoliosis at the annual American Academy of Orthopedic Surgeons' meeting for 11 consecutive years. He was Professor, Division of Orthopedic Surgery, and Professor, Department of Rehabilitation, at the Baylor College of Medicine.

Paul was one of those unusual persons with boundless energy. During the 1950s and 1960s, when most of his time was consumed by the development of the Harrington instruments and his theories concerning the treatment of the scoliotic patient, he found the time to design a 54-foot aluminium catamaran from the ground up, which he then had built. During the same period he also became an expert on photography and high-fidelity systems.

It was only in the latter part of his life that Dr. Harrington became well recognized for his accomplishments as recipient of the Most Distinguished Alumnus Award in 1975 from the Medical Alumni Association at the University of Kansas. He also received the Cora and Webb Mading Medal from the Institute for Rehabilitation and Research and Baylor College of Medicine in 1973, and the Nicolas Andry Award from the Association of Bone and Joint Surgeons in 1973.

Paul Randall Harrington died on November 29, 1980, ending a life of accomplishment that began in Kansas City, Kansas, on September 27, 1911. He will be remembered, not only for the development of the Harrington instruments, but also for his straightforward frankness, his bow ties, his par golf, his smile, his trumpet, and above all for being a nice person.

Robert Inkerman HARRIS

1889–1966

Robert Inkerman Harris was born in Toronto on July 1, 1889. He attended high school in North Bay. His brilliance as a student soon became apparent at the University of Toronto, where he was elected a member of the honorary medical fraternity, Alpha Omega Alpha, and graduated, first in his class, in 1915.

During his service in the First World War with the Royal Army Medical Corps and the Canadian Army Medical Corps, he showed all the bravery and devotion to duty that later characterized his career as a surgeon. He was mentioned in despatches, and awarded the Military Cross twice, before being wounded and invalided home in 1917.

After the war, he was appointed to the staff of the Sick Children's Hospital where he remained for the next 10 years, during which time his interests concentrated on the care of children with bone and joint disabilities. As a child, Dr. R.I. Harris had suffered from tuberculosis, and from this personal misfortune came the stimulus to help others similarly afflicted. After the war, he established a unit for the treatment of veterans with skeletal tuberculosis. A great believer in heliotherapy, he supervized the treatment of these veterans thought to be suffering from an incurable disease on the "Roof Ward" of Christie Street Hospital. Most of them lived to take part in a 1934 "Re-union of the Sun Worshippers."

At the request of the National Sanatorium Association, he established a unit at the Toronto Hospital in Weston for the treatment of this disease in civilians. His interest in tuberculosis never left him and he held weekly clinics for 35 years—his last clinic being held just before he left for Banff.

Dr. W.E. Gallie was extremely anxious, when he was appointed Professor of Surgery at the University of Toronto, to have a surgeon of Dr. Harris's stature to work with him; and, at his urging, Dr. Harris left the Hospital for Sick Children to join the staff of the Toronto General Hospital. Though at first continuing to be a general surgeon, his interest continued to lie in the field of orthopedics and he increasingly confined himself to its practice. When, in 1940, a Division of Orthopedic Surgery was established in the Toronto General Hospital, Dr. Harris was naturally appointed the chief of this new service.

It was characteristic of Dr. R.I. Harris that, on the advent of the Second World War, he should enlist in the Royal Canadian Army Medical Corps. With the rank of colonel, he served at home and overseas as a surgical consultant to the Director General of Medical Services. Despite his manifold commitments, he found time during his service to compile his classic work *The Canadian Army Foot Survey*.

R.I. Harris was his best as a teacher, and his dedicated drive to stimulate, foster, and increase postgraduate education was reflected in his efforts to found the Royal College of Physicians and Surgeons in Canada and to be the founder of the Canadian Orthopedic Association. He was President of both the American and Canadian Orthopedic Associations on the occasion of the first combined meeting of the Orthopedic surgeons of the English-speaking world. It was at this meeting that he established one of the greatest advances in the teaching of orthopedics—the Exchange Traveling Fellowship Program.

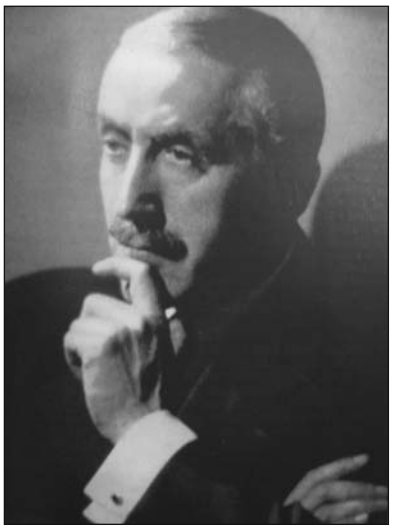
His originality as a surgeon led him to devise new procedures, such as the oblique step osteotomy of the tibia; his meticulousness as a surgeon ensured success from procedures that had sometimes been abandoned by others, such as Syme's amputation; his thoroughness and boldness and keen personal interest in his patient never let him abandon any patient, no matter how insuperable the problem appeared to be; and his inventiveness led to the development of new instruments and appliances, such as the incomparable Harris wire tyers. His astuteness as an observer led him to describe the pathological basis of ill-understood clinical syndromes, such

as peroneal spastic flat foot and discogenic back pain; his inexhaustible supply of energy led him not only to complete his memorable work on *The Canadian Army Foot Survey*, but also to rewrite the whole thesis when the original hand-written draft was stolen; and his unquenchable thirst for knowledge stimulated all the people he trained to search for better solutions to common orthopedic problems and to seek more deeply into their cause.

He well deserved all the honors that were bestowed upon him. In 1949, he was appointed Hunterian Lecturer by the Royal College of Surgeons of England. In 1955, he became the first Canadian to be appointed Sims Commonwealth Professor. He was made an Honorary Fellow of the Royal College of Surgeons of England, of the Royal College of Surgeons of Edinburgh, and of the Royal Australasian College of Surgeons. In January 1966, he gave the first Gallie Lecture to the Royal College of Physicians and Surgeons of Canada. The following month he was presented with the Distinguished Service Award of the Ontario Society for Crippled Children. Immediately before his death, he was made an Honorary Chieftain of the Sarcee Indians of Banff, who bestowed on him the title of "Father of the Straight Child" in recognition of his outstanding contribution in the treatment of crippling diseases.

A recitation of R.I. Harris's achievements in the field of orthopedics, however, describes only a part of the fullness of his life. He was devotedly interested in the history of Canada as a whole and in the history of medicine in particular. Just before his death, he had started a study of John Rolph, the father of Canadian medicine. He took a keen interest in natural history and, as a result of this interest, became one of the leading authorities on rattlesnakes in Canada.

Dr. R.I. Harris died at the age of 76, while attending the annual meeting of the Canadian Orthopedic Association in Banff, Alberta.



Julius HASS

1885–1959

The death of Julius Hass brought to a close a life full of distinguished service in orthopedic surgery. Because his professional career was divided into two periods, the Austrian and the American, the former being considerably longer than the latter, it would be necessary to have two biographers, one from each country, to do full justice to the importance of his various contributions. I knew him only in the American period.

Julius Hass was born in Vienna and lived and worked there until 1938, when, following the German Anschluss, and at the peak of professional eminence, he became a victim of Nazi persecution. He determined to abandon his great career and to move to the United States and make a new home for himself and his wife and one son. He settled in New York City. This decision took great courage because it is always hard to start all over again in a foreign country, especially so for one who had already reached middle age. He had also to leave behind his invaluable records. That he was again able to climb to the summit in professional regard is proof of his indomitable industry, his high professional competence, and his integrity.

Hass received his degree in medicine from the University of Vienna in 1910. He interned at the Allgemeines Krankenhaus in Vienna, followed by an appointment as surgical assistant on the service of Professor Frank. At the same time he attended the Roentgen Institute of Dr. Holzknecht, where he became acquainted with the fundamentals of

bone and joint roentgenology. These studies stimulated Hass's decision to specialize in orthopedic surgery. In 1912 he was appointed to the position of assistant (Hilfsartz) at the Universitäts-Ambulatorium and Abteilung für orthopädische Chirurgie, which was the official title of the Lorenz Clinic. This became his working place for more than a quarter of a century.

His diligence, ambition, knowledge, and surgical skill made him very soon the favorite pupil of his teacher, the great Professor Adolph Lorenz, whose associate and co-worker he subsequently became.

In a recent memorial tribute, Dr. Albert Lorenz, the son of Professor Lorenz, wrote that Hass was the last outstanding pupil of Lorenz: he always advocated Lorenz's principles of conservative orthopedic surgery that were based on the motto *primum non nocere*. In 1920 Hass received the *venia legendi* as Dozent for orthopedic surgery, and in 1929 he succeeded Lorenz with the title of Professor Extraordinarius für Orthopädische Chirurgie.

The scientific papers that Hass published in Europe were on the one hand based on the teachings of Adolph Lorenz; in these publications Hass defined, defended, enlarged, and modified with his own observations and experiences: the Lorenz principles of orthopedic surgery. On the other hand, Hass independently presented new and pioneering contributions of his own to orthopedic surgery, among which were:

1. Tendon transplantation for injuries to the radial nerve. This method, still used in Vienna, consisted in transplanting the flexor carpi ulnaris to the extensor digitorum communis, and the flexor carpi radialis to the extensor policis brevis and abductor policis longus.

2. An arthroplasty for mobilizing ankylosed elbows and knees. This consisted in reshaping of the distal ends of the humerus and femur into bone wedges, which articulated with saucerized surfaces in the distal bones. He used fatty and facial tissue for interposition.

3. His textbook on conservative and operative orthopedics, which was his most important publication. Physicians frequently regret that Lorenz did not write a textbook on orthopedic surgery based on his own concepts and principles; Hass did this for him in writing his book.

Hass was a brilliant speaker and commanded a masterly knowledge of the German language, which, in connection with a pleasant voice that was easily heard, made him an ideal teacher. He had the gift of clear communication with his audience, and his listeners enjoyed his lectures with enthusiasm.

When Hass arrived in New York City in 1939, he had lost both his professional position and his life savings. For some time he had to sit on the side lines while struggling to pass the State Medical Licensing Board examinations, a terrible task for a man of his seniority. He utilized part of this time in writing medical papers and in getting acquainted with his new environment. He was a constant visitor to the Hospital for Special Surgery where the orthopedic residents and medical staff members quickly learned to make use of his interest and knowledge of congenital dislocation of the hip for their own benefit. In 1941, when he was licensed to practice, he was appointed Chief of the Orthopedic Department at the Montefiore Hospital. He served there until 1947, when he had to retire because of age limitations and became consultant to the hospital. He was also appointed consultant to the Hospital for Special Surgery, where he treated most of his private patients who needed hospital care. He was constantly helpful in the treatment of congenital dislocation of the hip and in teaching the residents. Everyone learned to know and respect this quiet-voiced man in whose mind was compressed such wide experience and rich knowledge.

After coming to the United States, Hass made the following important contributions:

1. A type of subtrochanteric osteotomy, which forced the lesser trochanter of the femur into the acetabulum as a means of articulation and pelvic support. This procedure is valuable and is generally designated by the author's name.

2. A book on congenital dislocation of the hip, which summarized his experience in the treatment of over 2,000 patients and surveyed the progress made in the treatment of this condition in a period extending over 50 years. This is the most authoritative review ever written and is bound to occupy an important place in the literature of the subject for years to come. He supplemented this with additional articles on special aspects of the same subject.

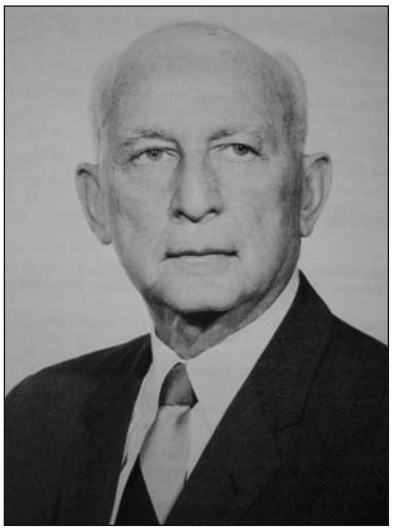
3. Finally, an article written in conjunction with a graduate of the Hospital for Special Surgery, Robert Hass (no relation), describing a remarkable condition of joint instability and recurrent dislocation, which had not hitherto been described.

In 1957, the King Umberto Prize of the Instituto Rizzoli of Bologna, Italy, was awarded to Julius Hass on the basis of his book, *Congenital Dislocation of the Hip*. This prize is given once every 5 years for the best orthopedic work published during the period. The award and the gold medal that accompanied it were presented to Hass by the Italian Consul General on the occasion of a special meeting in Hass's honor, which was held at the Hospital for Special Surgery. This was also an opportunity for his friends and colleagues to show their esteem and regard, which a large number of them did.

Julius Hass had other pleasant memories to look back on besides his professional ones. He had one other passion in addition to orthopedic surgery and that was hunting. In the former days in Austria, every year he made a trip to the Carpathian Mountains region, or other areas, to chase deer. He was a keen shot and an indefatigable pursuer. His chase often led him long distances over mountain slopes and through snow fields until he caught up with and bagged his prey. Many trophies of his skill decorated the walls of his home, and he had much pleasure in showing them to his guests and in talking about his hunting trips.

The height of the worldly success was attained through connections he made with various Indian rajahs and princes, beginning in 1932 when the nephew of the Nizam of Hyderabad, and former premier of that country, came to Vienna seeking relief from a disability of the elbow. Julius Hass operated on him with a successful result. Adolph Lorenz wrote about this in his autobiography, *My Life and Work*, as follows: "I am afraid that my excellent pupil knew better how to perform the operation than to ask a fee worthy of the occasion, which would have freed him from care for the rest of his life." At any rate, this operation established Hass as a surgeon to be seen by any Indian prince who was suffering from an orthopedic disability. In 1934 he was invited to make a trip to India and while there he operated on several maharajas and Indian princes. He returned to India in 1938 after leaving Austria, and at that time an offer was made to build an orthopedic hospital after his own plans if he would stay to head it. Hass did not feel able to adjust his life and that of his family to the customs and climate of India and declined the offer. It is needless to say that both trips offered Hass the opportunity of indulging his favorite pastime of hunting. He shot tigers and other big game from elephants and from lures, and brought back to the United States skins and other trophies.

Julius took great pride in his family and was a charming host. Although he could talk about many things, his overwhelming interest was orthopedic surgery. Professor Julius Hass died on August 17, 1959.



Emil D.W. HAUSER

1897–1982

Emil Hauser was born on February 22, 1897, in Freeland, Pennsylvania, the seventh of ten children, the son of Reverend Karl Hauser and Wilhelmina Volkert. He was educated at the University of Minnesota, where he received his MD degree in 1922, and then did postgraduate work in surgery at the University of Minnesota and the Mayo Clinic. He was awarded an American–Scandinavian Fellowship in Orthopedic Surgery and spent the year of 1925–1926 visiting various orthopedic clinics on the continent. The greatest influence on him was Professor Haglund of the Karolinska Institut in Stockholm, and he credited Professor Haglund for his continued interest in the conservative treatment of low-back problems, scoliosis, and talipes.

He returned to the United States in 1926 and was accepted as a first assistant and permanent staff member of the Mayo Clinic. In 1927 he

received his MS degree in orthopedic surgery and moved to Chicago, Illinois, taking a position as Assistant Professor with the University of Illinois Medical School and Illinois Research Hospital. In 1930 he became an Attending Surgeon at Passavant Hospital in Chicago and an Assistant Professor of Bone and Joint Surgery at Northwestern Medical School. He maintained these affiliations for the rest of his professional life, finally retiring in 1965 as Associate Professor Emeritus in Northwestern's Orthopedic Department. He maintained a busy and successful practice in Chicago and later in Winnetka, Illinois, before retiring to Sun City in 1973.

Emil Hauser was first and foremost a clinician who retained his interest in the conservative treatment of the foot and back. His book *Diseases of the Foot* went into two editions and was translated into European editions. His early interest in scoliosis culminated in his book *Curvatures of the Spine*, published in 1962, and his continued interest in the conservative treatment of talipes resulted in *Congenital Clubfoot*, published in 1965.

He rowed against the stream of surgical intervention in many orthopedic problems, and his conservative approach to bone and joint disease was uniquely his own. The Hauser bar for treatment of pes valgo-planus, the Hauser brace for treatment of talipes equinovarus, and the treatment of scoliosis by progressive recasting are some of his original contributions to the treatment of bone and joint disease. He added to surgical treatment as well with an operation for correction of hallux valgus, and his procedure for total tendon transplant for the dislocated patella remains a standard procedure today.

Dr. Hauser was an active advisor for orthopedics for the National Foundation for Infantile Paralysis, and served on the medical advisory board for the Chicago chapters of both the National Multiple Sclerosis Society and the United Cerebral Palsy Association. He was an active consultant in orthopedics to the US Naval Hospital at Great Lakes from 1946 to 1953, and although he was not active politically, many honors and appointments came to him, including membership in the American College of Surgeons, the American Board of Orthopedic Surgery, and the Clinical Orthopedic Society. In 1958 he served as Chief of Staff of the Passavant Hospital.

Like most successful men, Em Hauser owed much of his success to the women in his life. He was a devoted husband to his wife, the former Mary Frances Thomas, whom he married on July 28, 1930, and who survived him. Their marriage produced five children, two of whom are physicians. Three nephews are physicians as well, two of them practicing orthopedic surgeons. Besides his good fortune in choosing his wife, Dr. Hauser was lucky to have outstanding women supporting him in his practice. His sister Adele Hauser Donlin and physical therapists Mildred Elson and especially Louise Reinecke were vitally important to him.

The secret of Emil Hauser's career is that he walked humbly and moved with the current while keeping his own counsel. "The best man is like water . . . [he] benefits all things and does not compete with them. [He] dwells in lowly places that others disdain." This was Emil Hauser's way.

Dr. Emil Hauser died at the age of 85 in Sun City, Arizona, on November 18, 1982, of coronary heart disease.

Clopton HAVERS

1657–1702

The name of Clopton Havers has been associated for 160 years with the spaces or canals that traverse the compact bone tissue. In view of the fact that Haversian canals are known to every student of anatomy, it is somewhat surprising that so little is known about the man who described them.

Clopton Havers' father was called Henry, and it seems likely that he was the nonconformist clergyman, a native of Essex, who served as chaplain for a time to the Earl of Warwick and was vicar of Chipping Ongar about the year 1643. He was later appointed minister at Fifield (1649–1650) and rector of Stambourne in 1651. After the restoration of Charles II in 1662, he was ejected from the ministry for his nonconformist views. Clopton Havers was born in the year 1657 and nothing is known of his early education except that Richard Morton was his tutor. Dr. Morton was also a nonconformist divine and he had served as chaplain at New College, Oxford. He was forced to give up his clerical post when the Act of Uniformity was passed in 1662 and he then entered the medical profession. In 1670 he received the degree of Doctor of Medicine at Oxford and 8 years later was elected a Fellow of the Royal College of Physicians.

It was to Dr. Morton, therefore, that Clopton Havers was most indebted in the early stages of his career. In 1668 he was enrolled as a student at Catharine Hall, Cambridge, and he studied there for a time. He left the university, however, without taking a degree and the next known fact of his life is that on July 28, 1684, he was admitted as an Extra-licentiate of the College of Physicians of London. This meant that he had authority to practice medicine anywhere in England except in the city of London or within 7 miles of it, with the further proviso that he could settle in Oxford or Cambridge only if he held a special license or had obtained a medical degree. In the following year, 1685, Havers, according to the "Album Studiosorum," was enrolled as a student at the University of Utrecht and presented a thesis entitled "De Respiratione," which gained him the degree of Doctor of Medicine of that university. This work was dedicated to his father and to Richard Morton. On November 17, 1686, Havers received the distinction of being elected a Fellow of the Royal Society and he was admitted on December 15 of that year.

Osteologia Nova

It was not until December 22, 1687, that Havers became a Licentiate of the Royal College of Physicians and was able to practice in London (probably in Fenchurch Street). He now made the study of anatomy his special interest and at meetings of the Royal Society he delivered the following papers: August 7 and October 23, 1689, "The first Discourse of the Membrane, the Nature, Constituent Parts, and Internal Structure of the Bones"; October 30 and November 13, 1689, "The second Discourse of Accretion and Nutrition"; January 29, 1689, "The third Discourse of the Marrow"; November 20 and 27, 1689, "The fourth Discourse of the Mucilaginous Glands"; August 13, 1690, "The fifth Discourse of the Cartilages." These five lectures were published as a book in 1691, under the title *Osteologia nova, or some Few Observations of the Bones, and the Parts belonging to them, with the manner of their Accretion and Nutrition*.[1] Another English edition appeared in 1729, 27 years after the death of the author.

The Epistle Dedicatory is to the Right Honorable Thomas, Earl of Pembroke, President of the Royal Society, and there is also a dedication to Richard Morton, in which he makes the following acknowledgment of his great debt to his former tutor:

> I do therefore, as an expression of that Respect and Gratitude which are due from me, humbly present you with these Discourses: and although I shall never be able to satisfy that Debt which I have contracted; yet this will be a demonstration of my inclinations to be Just and Grateful. And there is no one can be insensible how far I am in Justice bound to render to you that, which is an account of the Talent, which you, Sir, have intrusted me with, and so far as I am capable, taught me to improve.

The book was very well received both in England and on the continent, and three editions in Latin (Frankfurt 1692, Amsterdam 1731, and Leyden 1734) are some evidence of the esteem with which it was regarded. Lilly Butler, Minister of St. Mary Aldermanbury, mentioned this work in the sermon that he delivered at the funeral of Clopton Havers: "Out of this Book Dr. Baglivi, when he stood for Anatomy Professor in the Sapienza at Rome, took his Lecture. This, after he was chosen out of seventeen Candidates, he publicly owned before the Cardinals and other Electors and wrote a Letter of Thanks to our learned Author for his Chair when he sent him his Praxis."[4] French reference books do not seem quite so enthusiastic about it, however, and point out that though many of his findings had been accepted as original, in actual fact he was not the first to draw attention to them.

In the *Annals of the Barber–Surgeons*, an entry under the date June 30, 1698, reads as follows: "Ordered that there be an Anatomy Lecture called Gale's Anatomy, Dr. [Clopton] Havers and Dr. Hands being put in nomination for reading of the same. Dr. Havers was chosen for three years to read on the second Tuesday, Wednesday and Thursday in July next by three of the clock in the afternoon and to have thirty shillings for his pains and the remainder to be disposed of by the Committe." The Gale Lectures had been founded in 1655 by Mr. John Gale, who left an annuity of £16 to the Company of Barbers and Surgeons for this purpose, and as the records do not show the appointment of any previous lecturer, Dr. Havers appears to have been the first to hold this position. As presumably the annuity had been accumulating for over 40 years, and as the lecturer received only 30 shillings out of the £16 available, it seems that the "Committee" was a little niggardly in their remuneration. The records do not reveal how they disposed of the rest of the

money. A further entry in the *Annals* on December 14, 1699, announces that "Dr. Hans and Dr. Havers were put in nomination for Reader of the Ventera Lecture in the room of Dr. Tyson" (who had recently retired).

One other publication by Havers is available. This is entitled "A short Discourse concerning Concoction" and it appeared in the *Philosophical Transactions of the Royal Society* in 1699 (vol. 21, no. 254, p. 233). Possibly too much of his time was occupied in the exercise of his profession to permit any further great literary efforts after the writing of his book in 1691, but certainly no facts are available to fill in the gap between this date and 1698. In 1702 was published a new edition of Spaher and Remmelin's, *A Survey of the Microcosme, or the Anatomy of the Bodies of Man and Woman*, edited and corrected by Havers. This must have been his last work, for in April 1702 he was afflicted with a malignant fever, which proved fatal. He was buried at Willingdale Doe in Essex, in the grave of Thomas Fuller, a former rector of the parish, whose daughter he married. In the same grave are the bodies of six of his children, none of whom lived more than 3 years. The following extracts from Lilly Butler's funeral sermon give some estimation of his character:

> He was a most respectful, dutiful son to his aged Father, frequent and liberal in making his acknowledgments to him for his ingenuous and chargeable Education, and in a late Fit of Sickness readily left all his other Business to his own considerable Loss and attended upon him for three weeks together in the country, with the Care and Service and Affection of a Physician, and Nurse and Child.
>
> . . . Having engaged himself in an honourable and useful Calling, he faithfully pursued the Designs of it, as one who remembered the account he must give to the Maker of those Bodies he had undertaken the care of, and truly *Watched for their Lives*. He took a great deal of Pains to improve himself in that Knowledge which was necessary to qualify him for a laudable discharge of so great a Trust. . . . His Countenance was grave and serious, without any lines of Sorrowness or Affectation; his Speech was soft and obliging, without any Air of conceit or Flattery; his Behaviour gentile and courteous, without any Appearance of Art or Design.

Dr. Butler likened him to St. Luke and said that "he was not only esteemed by his Patients for his great abilities and care and diligence, but exceedingly beloved too for his amiable Temper, his obliging Tenderness and his most winning and excellent Virtues." This funeral oration was later printed and dedicated to Mrs. Dorcas Havers, the widow.[4]

For the following record of the interment, taken from the register in Willingale Church, the writer is indebted to the present rector, the Rev. C.A. Howell: "Clopton Havers, MD, was buried April 29th, 1702, in what was made of sheep's wool only and affidavit thereof made and delivered the same day." This custom of burial in wool was in accordance with a law passed in 1666 in the interests of the wool trade, and the following is an extract from the Act:

> For the encouragement of the woollen manufacture of the kingdom, no person shall bee buried in anny shirt, shrewd or sheet made of wool mingled with flax, hemp, silk, hairs, gold or silver or any other than what shall be made of wool only or be putt into anny coffin lined or faced with anything made or mingled with flax, hemp etc. upon pains of the forfeiture of the sum of five pounds, to be employed for the use of the poor of the parish when such person shall be buried.

This law remained in force until 1814. From the same parish records comes the information that Mary, the daughter of Dorcas Havers, the widow, was buried at the same church on May 6, 1702, only a week after her father's interment. Another entry records the burial of a Clopton Havers, presumably the doctor's son, on November 7, 1709.

In the introduction to the *Osteologia nova*, Havers states his reasons for making this investigation as follows:

> As no Faculty has received greater Additions to its Improvement in this last Age than Physick, so no part of that has been more tempting, or more successfully pursued than Anatomy. The Dissections of many preceding Ages turn'd to a small account; so that many of the most admirable Contrivances of Nature and of the greatest Wonders in the lesser World, were inobserv'd; till the Curiosity of some ingenious Men, animated with the hopes of some new Discoveries, put them upon farther Enquiries; in which their Industry and Felicity carried them so far, that the Existence of some parts before unknown, the Nature, Structure and Use of others, began to appear. But although the Security and Observations of our Age about some of the Parts have been very accurate, we have been only coasting about others; particularly about the internal Fabrick, and some other things of the Bones our Searchers have been careless, our Notice slight and transient: not but that they deserve our strictest Enquiry and serious Remarks; for I do not see but the Almighty Architect has equally demonstrated His Divine Skill in the whole structure of

these Parts which He has made of grosser Matter, as in the Formation of those which consist of sifted and more refined Particles. And how curious the Hand of Heaven has been in the Framing and Ordering of this Timber-work of our Bodies, may perhaps appear a little from this Discourse.

Haversian Canals

The particular concern of the present paper is to give the original description of the "canals," which is to be found on page 43 of the English editions and on page 47 of the Latin edition published in Amsterdam in 1731:

In the Bones, thro' and between the Plates, are formed Pores, besides those which are made for the Passage of the Blood-Vessels, which are of two sorts; some penetrate the Laminae, and are transverse, looking from the Cavity to the external superficies of the Bone; the second sort are form'd between the Plates, which are longitudinal and straight, tending from one end of the Bone towards the other and observing the course of the bony Strings. And that I may not be thought to pretend to the discovery of what no other mens Eyes can discern, because they are generally very difficult to be observ'd, unless it be the transverse Pores in the internal Lamell, I have the pieces of two Bones, which I have brought along with me; in one of which the transverse, in the other the longitudinal Pores are very visible with the help of an ordinary magnifying Glass.

Havers observed that the transverse pores were more numerous in those plates of bone that lay nearer the cavity and, furthermore, that they were so arranged that they did not form a continuous passage from the cavity to the exterior, which arrangement would have tended to destroy the rigidity of the bone. These transverse pores are not arranged in any kind of pattern, but have a "seeming irregularity," which tends to preserve the necessary strength of the bone tissue. The longitudinal pores are more difficult to see, but are best observed in the ribs. Havers assumed that the use of these pores was solely for the diffusion of the "Medullary Oil" for, he says: "About these passages I was particularly strict in my enquiry, whether they were not formed for Blood-Vessels, tending either to or from the Marrow: and although some of the Medullary Veins have Pores, by which they penetrate into the substance of the Bone, yet I made my self certain, that these Pores, for the generality of them which I examined, had no Vessels which passed into them." In this, of course, Havers has since proved to be wrong, for later studies showed that the canals were indeed formed for the passage of blood vessels, so that his ingenious theory that the "porosity" decreased from the cavity towards the outside of the bone because the amount of lubricating medullary oil carried by the canals would necessarily grow less as the exterior was approached, is no longer tenable.

It seems very likely that Anthony van Leeuwenhoek, the pioneer microscopist, had already observed these "canals" in bone, for in his letter published in the *Philosophical Transactions of the Royal Society* on September 21, 1674, he makes the following statement: "I have several times endeavoured to observe the parts of a Bone, and at first I imagin'd, I saw on the surface of the Shinbone of a Cow several small veins (which bone I still keep by me); but I have not found it since in any other bone" . . . "Afterwards I viewed the Shinbone of a Calf, in which I found several little holes, passing from without inwards; and I then imagined, that this Bone had divers small pipes going longwayes."[9] Leeuwenhoek makes no other comment on this observation and so it must remain doubtful whether the structures he saw were actually those that later became known as Haversian canals.

The place that Havers occupies as a pioneer in osteogeny and the importance of his major work can only be estimated in relation to the times in which he undertook his laborious investigations into the "Framing and Ordering of this Timber-work of our Bodies." The *Osteologia* occupies a permanent place in literature since it was a work filled with bold speculations based, for the most part, on careful reasoning from the results of ingeniously contrived experiment and accurate observation. Havers was no copyist and he rightly named his work as *Osteologia nova*. That his canals contained blood vessels and not merely medullary oil as he contended and that they had probably been known previously to Leeuwenhoek does not detract from the merits or the originality of his observations at a time when the dissemination of scientific knowledge was of necessity restricted. Nor must we minimize the importance of his discovery of the penetrating periosteal fibers afterwards known as Sharpey's fibers (1848). These fibers he describes as "fibrillae or threads," and that he appears at times to regard them as being nervous in function is probably due more to his usage of the term "nerve" in its original sense of a sinew, a tendon or a string, than to his failure to realize their true nature. That Portal[13]

should rather grudgingly recognize the originality of Havers and that he should stress his incomplete acquaintance with contemporary literature must not be taken in disparagement of the work of a man who, while in the active practice of his profession, produced a work that breathed a new spirit of experiment and speculation into the study of osteology.

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Melvin Starkey HENDERSON

1883–1954

Dr. Melvin Starkey Henderson was born in St. Paul, Minnesota, in 1883. He received his early schooling in St. Paul and later in Winnipeg, Manitoba. He received the degree of MB from the University of Toronto in 1906, and the degree of MD from the same institution in 1914. He was an intern in the City and County Hospital, St. Paul, from 1906 to 1907. He then went to Rochester to work as clinical assistant to the Mayo brothers. His interest in their work and the development of the Mayo Clinic never lagged from that time until his death.

During the years 1909–1911, Dr. Henderson worked as a surgical assistant to Dr. William J. Mayo and his colleagues. In 1910, looking to the future, Dr. Henderson felt that, in as much as he had always been interested in orthopedic surgery, perhaps a section devoted to this specialty should be formed in the rapidly growing group. Such a move was proposed to the group, who, after due consideration, approved the idea.

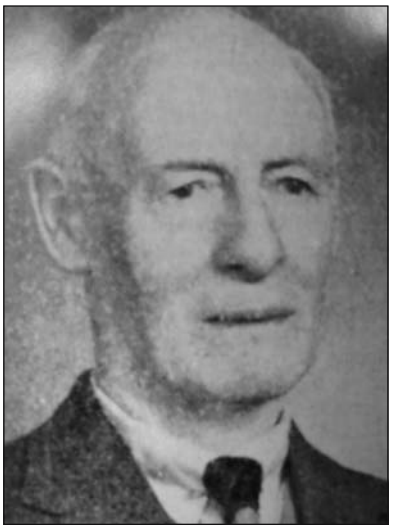
Recognizing the developing specialty of orthopedic surgery, the Mayo brothers sent Dr. Henderson to Liverpool to work under Sir Robert Jones and to visit Sir Harold Stiles in Edinburgh, during the year 1911. He returned to Rochester and resumed charge of organizing and directing the section of orthopedic surgery at the Mayo Clinic. Thus, Dr. Henderson's experience was in a way unique in that he planned and organized and developed a section of orthopedic surgery in a rapidly growing clinic devoted to group practice of medicine. Furthermore, he was vitally interested and took a very active part in the organization of graduate training at this institution under the auspices of the Graduate School, University of Minnesota, and was actively interested in the early development of the American Board of Orthopedic Surgery.

Dr. Henderson contributed much to the growing specialty of orthopedic surgery. His outstanding efforts were in the treatment of fractures, particularly bone-grafting procedures for ununited fractures and for fractures of the neck of the femur. He also developed an operation for the treatment of recurrent dislocation of the shoulder, which became widely recognized. He wrote many papers on internal derangements of the knee joint and other orthopedic subjects.

His work and interest in the development of modern orthopedic surgery can be best illustrated by pointing out the various important posts he held in orthopedic societies. He was Chairman of the Section on Orthopedic Surgery of the American Medical Association in 1920. He was President of the Clinical Orthopedic Society in 1920, of the American Orthopedic Association in 1934, of the American Board of Orthopedic Surgery in 1935, and of the American Academy of Orthopedic Surgeons in 1936. He also held memberships in the American College of Surgeons, the International Society of Orthopedic Surgery and Traumatology, the American Association for the Surgery of Trauma, the Western Surgical Association, the Minnesota State Medical Association, of which he was President in 1932, and the Southern Minnesota Medical Association, of which he was President in 1918. He was an honorary member of the Societas Orthopedica Scandinavica.

His creed might be quoted from his own Presidential Address to the American Orthopedic Association in 1934: "We as specialists must ever be on the alert to acquire knowledge pertaining to our specialty, and to assimilate, digest, and make use of new facts, thus acquiring that elusive something called wisdom."

Dr. Henderson died on June 17, 1954.



Arnold Kirkpatrick HENRY

1886–1962

One of the jewels of orthopedic literature is a slim book of solid gold. Every page contains a nugget of valuable information, concisely written in an entertaining style. What other orthopedic text mentions Tristram Shandy?

Arnold Kirkpatrick Henry's *Extensile Exposure Applied to Limb Surgery*, first published in 1927, has guided several generations of limb surgeons, making their work easier and safer. To many, Henry is thought of only as an anatomist, but he also was a general surgeon of the old school who felt at home operating anywhere between the scalp and the sole.

Henry received his undergraduate education at Trent College in England. He then enrolled in Trinity College, Dublin, from which he received his MB, BCh, and dBAO degrees in 1911. After additional postgraduate training in Dublin, he became a Fellow of the Royal College of Surgeons of Ireland in 1914. During World War I, Henry became a surgeon of the Serbian army. His wife, who was also a surgeon, served as his first assistant. In 1916 they both fled to Great Britain because the German army invaded Serbia. The Serbian government decorated Henry with the Order of St. Sava for his surgical services. After joining the Royal Army Medical Corps, Henry was posted in India for a short period before being sent to the French army from 1917 to 1919. For this service Henry was made a Chevalier of the Legion of Honor. After the war, Henry returned to practice in Dublin where he also edited the *Irish Journal of Medical Science*. In 1925 he became a professor of surgery at the University of Cairo, a position he held for 11 years. On his return to England, Henry received additional decoration and an honorary degree from the government and the University of Egypt. During World War II, he was a teacher in the surgery department of the Postgraduate Medical School at Hammersmith. In 1947, Henry returned to Dublin as a professor of anatomy at the Royal College of Surgeons of Ireland until his retirement in 1959.

In addition to his valuable and unique book, Henry made many original contributions to the surgical literature describing new procedures and original observations. In his later years, Henry became a beloved academic figure in the surgical and medical worlds of Dublin.

Charles Harbison HERNDON

1915–1997

Born in 1915 in Dublin, Texas, Charlie Herndon received his undergraduate education at the University of Texas and earned his MD degree from Harvard University in 1940. After having completed his surgical internship at the University Hospitals of Cleveland, he entered the United States Army in 1941 as a First Lieutenant and volunteered to serve at the American Hospital in Oxford, England, under the direction of Philip D. Wilson, Sr., MD. He subsequently served in the Third and Twenty-third Station Hospitals and in

the Second General Hospital throughout the entire European campaign; he was discharged with the rank of Major in January 1946. He began his orthopedic residency at the Hospital for Special Surgery, then a small red-brick building on 42nd Street in New York City. On completion of his residency in 1947, he returned to the University Hospitals of Case Western Reserve University Hospital in Cleveland to become its first full-time orthopedic surgeon. He established the first full-time division of orthopedic surgery at that institution in 1953; the division became a full department in 1978. In relatively few years, his stewardship had made possible the development of a faculty and a resident program that today are regarded as among the finest in the nation.

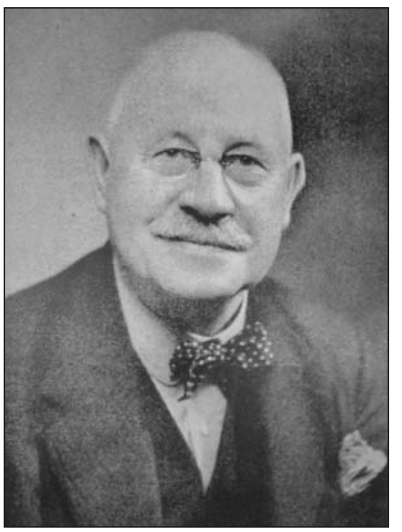
Charlie was an early pioneer in orthopedic research, primarily in the field of bone transplantation, and he inspired generations of faculty and residents to become involved in research. His clinical interests were broad, as were those of most of his generation before the development of multiple orthopedic subspecialties. He was the author or coauthor of 57 publications, and he continued to write on a wide range of topics, particularly those related to pediatric orthopedics, until the time of his retirement in 1982.

The many honors and offices that were received or held by Charlie Herndon during his long and distinguished career were richly deserved and are too numerous to list exhaustively. Charlie served as a trustee of *The Journal of Bone and Joint Surgery* from 1969 to 1974; as a member of the American Orthopedic Association in 1955; and as President of the Orthopedic Research Society in 1957, of the American Board of Orthopedic Surgery from 1964 to 1966, of the Association of Orthopedic Chairmen in 1975, and of the American Academy of Orthopedic Surgeons from 1967 to 1968. It was as President of the Academy that he made his most distinctive mark: under his guidance and direction, the prophetic National Health Plan for Orthopedics (NHPO) was developed. This was the first such plan proposed by a national medical organization. It was typical of Charlie's foresight that the idea of regular recertification of orthopedists was first proposed in the NHPO. This proposal caused an uproar among a small yet vociferous group of orthopedists who vigorously attacked the concept. However, Charlie stuck to his guns like the Texan that he was, and, with time, although not without much travail, recertification became the fact of life that it is today.

Charlie served on numerous committees in the orthopedic community and participated in a wide range of interdisciplinary activities, as exemplified by his presidency of the Council of Medical Specialists Society in 1976. In recognition of his many services to the Case Western Reserve University Medical School, an endowed Chair of Orthopedics was established in his name in 1979.

It was a richly rewarding and exciting experience to know and to be educated by Charlie Herndon, as generations of his residents can attest. An outwardly reserved and occasionally stern manner inspired the best from others, but there was no better teacher by precept or example. His inner warmth and his concern for his resident staff and faculty were shown in numerous ways, but many of his former residents will confess that it took years before they allowed themselves to address him as Charlie.

Charles Harbison Herndon, MD of Cleveland, Ohio, one of the most respected and influential orthopedists of his generation, died on July 27, 1997, at the age of 82 years. He was survived by his wife, Kathryn Ann Blair (Kay), whom he married in 1944; and two sons.



Ernest William HEY GROVES

1872–1944

Hey Groves was the son of an English civil engineer, Edward Kennaway Groves, and was born in India in 1872. At the age of 3, when his father retired, the family settled in Bristol.

His medical education was received at St. Bartholomew's Hospital, London, where, having taken the degree of Bachelor of Science, while still a student, he started his teaching career as a demonstrator ["instructor" in the United States] of biology. This experience stood him in good stead, for he later became an outstanding teacher of surgery. Following his graduation in 1895, his first interests were in obstetrics and, after experience in different parts of England and a period of study at Tübingen, he settled in general practice in one of the outer Bristol suburbs. But he did not stay long in general practice. His search for surgical knowledge and experience was insatiable.

In 1896 he married Miss Frederica Anderson, who had been a nurse at St. Bartholomew's, and together they made their home into a private hospital. Here, with the help and encouragement of his wife, Hey Groves established his reputation as a surgeon. To his students he used to say that this episode in his life had its darker side, for tales were spread abroad that "Butcher Groves lured women into his home, operated upon them, and would not remove their stitches until they had paid their money." In spite of such petty nuisances, he was indefatigable, for, in the midst of his busy practice, he was able to attain high academic honors.

In 1905, having taken the Fellowship of the Royal College of Surgeons of England and the degree of Master of Surgery of London University, he was elected to the staff of the Bristol General Hospital. While thus engaged in surgery, he was still able to work as senior demonstrator of anatomy in Bristol University. He never deserted general surgery, but his mind soon tended to concentrate upon the mechanics of bone and joint surgery. He was indeed most ingenious and skillful, and "Hey Groves" splints and appliances became a byword. Indeed his early work anticipated much that followed in the field of orthopedic surgery. Before the days of the Smith–Petersen nail, he fashioned pins from beef bone and horns for use in fractures of the neck of the femur. In 1913, he described transfixion pins, which, passing through fragments, were fixed to external bars, thus with Lambotte anticipating Roger Anderson, Haynes, and others who later perfected this principle. These pins were again used by him in the treatment of gunshot injuries of bones; he wrote a primer on this subject in 1915. During the war of 1914–1918, he served in the Royal Army Medical Corps (RAMC), and was sent to Egypt in charge of the surgical division of a general hospital. Illustrating his resourcefulness, it is related that, on setting out for Alexandria with other RAMC officers, he found that none could go aboard ship unless properly dressed in spurs; whereupon he managed to acquire a rusty pair at a marine store, and, having himself embarked, tossed them ashore repeatedly for the use of each of his colleagues in turn.

On November 28, 1917, he was one of that small group of surgeons who met together at dinner at the Cafe Royal in London to consider what steps should be taken to found an association of British orthopedic surgeons. At that time Hey Groves did not regard himself as an orthopedic surgeon in the accepted sense of the term; but, at the invitation of Robert Jones, he had already entered the fold by taking surgical charge of the Military Orthopaedic Centre at Bristol. His intrusion into orthopedic surgery was viewed by certain purists of the Alder school with considerable misgiving, and, by a narrow doctrinaire interpretation of what constituted a "real" orthopedic surgeon in the year 1917, his name was omitted from the list of 18 surgeons invited to become foundation members of the new British Orthopedic Association. It was characteristic of the man that he showed no open resentment at this most unfortunate action. It was not long before the association made amends by sending a special invitation to Hey Groves to join in the capacity of an original member. From that time on, he became a loyal and powerful advocate of the cause of orthopedic surgery; and, during the earlier years of the association, this small specialist body gained prestige from the fact that one of its most distinguished active members held a University Chair of Surgery, was the editorial secretary of the *British Journal of Surgery* and later became a Vice President of the Royal College of Surgeons. It was clearly fitting that Hey Groves should in due course be chosen as President of the British Orthopedic Association, and his second year in that office (1929) was notable in the annals of the society as the occasion when a strong contingent of the American Orthopedic Association came to London to take part in a joint meeting with their British colleagues. The following year Hey Groves became President of the Association of Surgeons of Great Britain and Ireland, thus attaining to the dual honor that Robert Jones had previously achieved, and thereby forging another link between general and special surgery.

The British Orthopaedic Association is now, by common consent, the most vigorous of the special associations in Great Britain. It has a large and ever-growing membership, but there has been no schism. Orthopedic surgery remains within the fold of surgery as a whole, and the tradition of unity founded by Robert Jones and fostered by Hey Groves still endures.

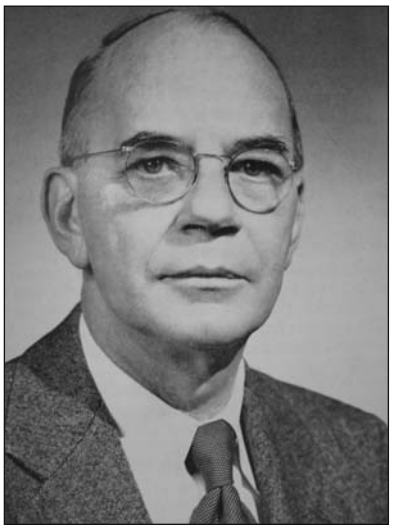
At Bristol, Hey Groves had been promoted to the Chair of Surgery in 1922. An old student writes:

> He had a vivid character, full of imagination and energy; he was an excellent teacher who brought a great sense of humour to his well attended ward rounds and operations. He was naturally very popular among the students; for, youthful himself, he was very fond of young company and always enjoyed a party, particularly dancing. Not infrequently his students, staff, and ward sisters were invited to join him—he was so charming.

Some of these students had other reasons to be grateful, for not a few keen men were helped financially through difficult periods of their student life and the following days.

As a writer, Hey Groves was prolific; several standard textbooks on surgery for students and nurses came from his pen. For the practicing surgeon, his concern was no less great, particularly his desire to advance the treatment of fractures and operative technique. *The Modern Treatment of Fractures*, written in 1916, was followed by many authoritative articles on these themes, and in 1935 he published his translation of Lorenz Böhler's work, of which he was a wholehearted supporter. In his foreword, Hey Groves emphasized the fundamental principles that Böhler had demonstrated: "the necessity for unity of control, loyal and efficient team work, accurate knowledge of the after-results, and meticulous attention to detail."

Throughout his life, both in surgical practice and in teaching, his mind was alert to the needs of the "everyday" problem, the thorough teaching of the student and younger surgeon in groundwork, and the simplification of methods for the safety of the patient. No better example of this can be found than in that product of his later period, the "Hey Groves Introducer" for the Smith–Peterson nail, which one of his followers has described as "making a very difficult operation simple."



Clarence Henry HEYMAN

1891–1964

Clarence Heyman was born in Payne, Ohio, in 1891, and his early education was obtained at Heidelberg College in Tiffin, Ohio, where he received a BS degree in 1911. He then attended Harvard Medical School, obtaining his MD degree in 1916. His inquisitive mind led him to spend much of his leisure time at the Huntington Memorial Hospital studying the use of radium in the treatment of cancer. While in medical school and during the internship that followed at Boston City Hospital, he produced his first major publication, an article on the treatment of anthrax, published in the *Boston Medical and Surgical Journal* in 1918. After his internship, he served with the United States Army (1918–1919). During this time, he was detached to obtain orthopedic training under Royal Whitman at the Hospital for Special Surgery, New York City.

At the end of World War I, he became associated with Walter Stern in the practice of orthopedic surgery in Cleveland, Ohio, and joined the staff of Mount Sinai Hospital at that time. Dr. Stern was establishing a crippled children's clinic in Elyria, Ohio, and Clarence Heyman assisted him in this endeavor. Dr. Heyman's great and lasting interest in children's orthopedics developed at this time. His subsequent career was intimately associated with the crippled children's programs in Ohio and the United States.

Through the untiring efforts of Mr. Edgar Allen and the Rotary Club of Elyria, Ohio, combined

with the professional advice of Dr. Stern and Dr. Heyman, funds were obtained to build the Gates Memorial Hospital for Crippled Children in Elyria, and the Ohio legislature was persuaded to pass the law that now supports the treatment of crippled children in the state. Itinerant clinics were established throughout northern Ohio to provide a mechanism for case finding and follow-up.

It was also through the combined efforts of these men that the local and national organizations of the Society for Crippled Children were established. In 1924, after Dr. Stern's retirement from the program, Dr. Heyman assumed leadership and remained active until his death.

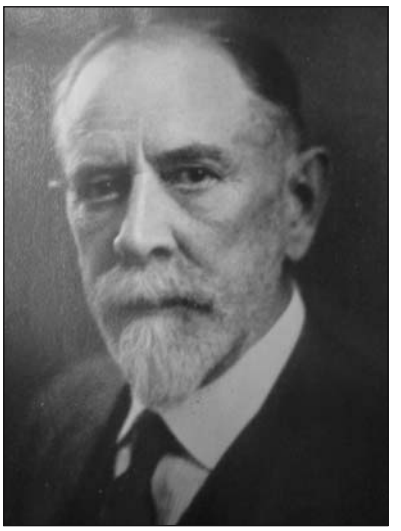
His many contributions to the literature attest to his profound interest, experience and unusual ability in every aspect of the problem of the crippled child. Not only did Dr. Heyman make many orthopedic contributions, but he also was active in the development of the administrative structure locally and at a state level for the support of crippled children's programs. He was one of the three original members of the Medical Advisory Board for the State Services for Crippled Children and was an active advisor to the Society for Crippled Children, remaining a member of the Board of Trustees of the local Society until his death.

Dr. Heyman had a deep concern for the advancement and future of orthopedic surgery. He recognized that progress is dependent on the character and training of the young men who enter orthopedics. His interest in teaching and his efforts to encourage young men are legendary. He joined the teaching staff of Western Reserve University School of Medicine in the early 1920s and served with deep interest and devotion until his death. Dr. Heyman was the first to be given the appointment of Clinical Professor of Orthopedic Surgery at Western Reserve.

His interest in standards of training in orthopedics was recognized on a national level when, in 1951, he was elected by the American Academy of Orthopedic Surgeons to serve on the American Board of Orthopedic Surgery. His term was continued until 1957, and he served as President of the Board from 1951 to 1954.

Dr. Heyman participated in the founding of the Ohio Orthopedic Society and the Cleveland Orthopedic Society. He served as President of both of these societies and as Secretary–Treasurer and later Vice President of the Cleveland Academy of Medicine. He was Vice President of the American Orthopedic Association in 1957.

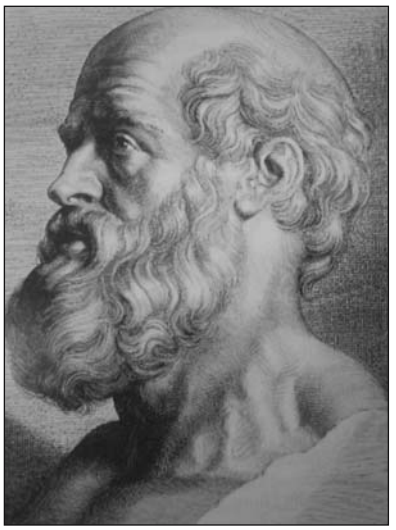
Clarence Heyman was a kind and gentle man. As a great teacher and clinician, he made numerous and lasting contributions to orthopedic surgery. For many years he was a leader in the development of orthopedic surgery. With the death of Clarence Heyman, on May 29, 1964, orthopedic surgery lost one of its great leaders. He was survived by his wife, the former Olive Manesfield Chatman, and two daughters.



Russell A. HIBBS

1869–1932

Appointed in 1898 by the directors of the New York Orthopedic Hospital to replace Dr. Newton Shaffer, Russell Hibbs represented the new school of orthopedic surgery as contrasted to the old "strap-and-buckle" period. He disproved Shaffer's theory that "mechanics and surgery could not be mingled." His concept of early fusion as the most effective treatment of joint tuberculosis has dominated orthopedic thinking for the past 40 years; just as his technique of spine fusion—published in 1911—has formed the basis for our modern methods of spine surgery.



HIPPOCRATES

Third century BC

Hippocrates was born on the Greek island of Cos, the son of a physician. Among his contemporaries were Plato, Socrates, Xenophon, and Protagas. It was a time of great intellectual ferment. Hippocrates practiced in Cos and was surrounded by a group of students throughout most of his life. He left an impressive legacy in the form of numerous manuscripts, which have survived and fascinated medical historians for generations. Not all of this material actually can be attributed to Hippocrates. However, most scholars think that the surgical books are the most likely to come from Hippocrates.

Hippocrates was familiar with the problem of dislocation of the shoulder. The Greeks were great athletes and there were the usual risks of an agrarian society. He dealt with acute dislocation, he faced the problems of delayed reduction, and there were cases of pathologic dislocations attributable to suppurative conditions such as tuberculosis. All of these problems can be seen today and are recognized by the same signs and symptoms described by Hippocrates. Although many of the diseases described by Hippocrates have disappeared or metamorphosed into new forms, trauma remains immutable, the same today as it was at the time of Hippocrates.

Carl HIRSCH

1913–1973

Carl Hirsch exerted a major influence on the course of orthopedic teaching and practice in the United States. The results of this influence will be felt by subsequent generations of orthopedic surgeons in much the same way that the influence of Erdheim, transmitted through Willis Campbell and Dallas Phemister, was felt by their students and subsequently by present-day practitioners and residents. Erdheim's field was pathology. Carl Hirsch's was biomechanics. The current emphasis on biomechanics as an important basic science in orthopedics can be traced to his influence and teaching.

His interest in the application of engineering to orthopedic research and practice was stimulated by his work on chondromalacia of the patella, in which he performed mechanical tests on the properties of patellar cartilage. This work was published in 1943. His attention was then directed to problems of the back, and while he was Associate Professor in the Department of Orthopedic Surgery at the Karolinska Institute in Stockholm, he performed further investigative work. He held three Chairs in Sweden: Uppsala, 1955–1960; Göteborg, 1960–1969; and Stockholm, 1969 until his death. His biomechanics laboratory was expanded with each move.

In 1957, the first American research fellow began work in Professor Hirsch's biomechanics laboratory. Thereafter, each year one or two research fellows from the United States and other parts of the world spent a year or two in the bio-

mechanics laboratory under his direction, performing research and learning the application of engineering principles to orthopedic surgery. In Sweden, it is common for a physician aspiring to an academic position to perform research and then to write a thesis to attain the advanced degree of Med Dr. After the thesis has been written and submitted to the university, the candidate must defend the work publicly before a panel of three experts. The thesis, if it is related to orthopedics, is then usually published as a supplement to *Acta Orthopedica Scandinavica*. The influence of a medical educator on the next generation of medical educators in Sweden can thus be measured quite accurately. During the period from 1960 to 1973, 40 doctoral theses were produced under the direction of Carl Hirsch, seven by American surgeons. In addition, many other orthopedic surgeons spent shorter periods of time in his biomechanics laboratory.

Carl Hirsch was a frequent visitor to the United States and was usually to be found at the annual meeting of the American Academy of Orthopedic Surgeons and at many of the postgraduate courses given throughout the United States. He was an entertaining and informative lecturer, who took a new and provocative look at many old problems, such as low-back pain and osteotomy of the hip.

An academic career requires a nice balance between patient care, research, and education. It is rare to find capabilities in all three areas combined in one man. Carl Hirsch possessed these capabilities. He was an excellent physician and surgeon. He was particularly skilled in surgery of the spine. In the area of research, the 40 doctoral theses attest to his ability as a researcher and research director. He established an excellent biomechanics laboratory, which has served as a model for many others throughout the world. He had the ability to pose a problem to a person and then gently to lead, push, and encourage that person to completion of the work. In the area of medical education, he played an important role in Sweden, acting as an advisor to the Swedish government in the field of orthopedic surgery and rehabilitation. He was a corresponding member of the American Orthopedic Association and an honorary member of the American Academy of Orthopedic Surgeons, the Shriners, and the Israeli Orthopedic Association. He was also a member of the French, British, and Swiss Associations, and was active in the Société Internationale de Chirurgie Orthopédique et de Traumatologie.

Carl Hirsch was known to all by his Swedish nickname, "Calle." His home was a haven for exchange fellows from overseas and for all visiting orthopedic surgeons. It was a rare visitor to his clinic in Uppsala, Göteborg, or Stockholm who was not brought to the Hirsch's home, which was filled with modern Swedish paintings and sculpture, for a typical Swedish meal. These activities were presided over by his first wife, Anna, who died in 1969. She was a woman of great warmth, and through her hospitality she did much to make the families of the research fellows from overseas feel at home and comfortable in a new environment.

Carl had a great facility for making friends, which made it easy for his students to develop a close relationship with him. This relationship greatly facilitated the work. In 1971, the Carl Hirsch Föreningen, a society of former American research alumni, was founded to honor Carl and to promote American–Swedish cooperation. Carl Hirsch died on June 19, 1973, at the age of 60. He was survived by his second wife, Anna Bjork, and three children: George, a resident in surgery, Monica, and Jon, a resident in oral surgery.

Arthur Ralph HODGSON

1915–1993

Arthur Ralph Hodgson was born in Uruguay to British parents. He was schooled at home by his mother. He received his medical education in Edinburgh and his orthopedic training in

Norwich, where he was a student of McKee and Britain. Like all of his generation, Hodgson went into the army and served in India, Burma, and Singapore. At the time of his discharge at the end of World War II, Hodgson was a Lieutenant Colonel. After his discharge, Hodgson returned to England for additional training.

In 1951, Hodgson was appointed senior lecturer and head of the Orthopedic and Trauma Unit in the Department of Surgery at the University of Hong Kong. It was here that he began his important work on the treatment of tuberculosis of the spine. The large number of patients and the lack of facilities for long-term conservative treatment made a more aggressive approach necessary and led Hodgson to seek a more radical surgical solution to the problem. He accomplished this by exploiting the anterior approach to the spine with drainage of the abscess, removal of sequestrae, and correction of the deformity. The correction was maintained by strut grafts of cortical bone. The advent of chemotherapy effective against tuberculosis affected the success of these operations favorably.

The success of Hodgson's program led the university to establish a Department of Orthopedic Surgery in 1961. Hodgson was made the head of this department and held the appointment until his retirement in 1975. His ward for crippled children in 1968 had increased to become the Duchess of Kent Children's Hospital with 200 beds.

Interest in Hodgson's work brought him students from all over the world and many honors, including the award by Her Majesty Queen Elizabeth II of an Order of the British Empire. He lectured extensively in the United States.

After his retirement in 1975, Hodgson returned to Suffolk, England, where he died at the age of 78.

Albert HOFFA

1859–1908

Born in the Cape of Good Hope, South Africa, the son of a German physician, Albert Hoffa was educated in Germany. After qualifying, he established the first private orthopedic unit in Germany, situated in Würzburg, Bavaria.

He became very well known, wrote and taught a great deal, and founded journals. In 1902 he followed Julius Wolff (known for Wolff's law) as professor at Berlin. Clearly a great and popular man, it is inappropriate that his name should be attached to such a trivial and often unconvincing complaint as hypertrophy of the fat pad of the knee.

Michael HOKE

1874–1944

The field of action is not the field of intellect: it is the field of character. It is not the intensity but the duration of ideals that makes a great man.

This wise observation of Elihu Root is peculiarly applicable to the life of Dr. Michael Hoke, internationally known orthopedic surgeon, great teacher, kindly counsellor, and friend. Dr. Hoke was born in Lincolnton, North Carolina, on June 28, 1874. He was the son of the well-known General Robert F. Hoke and Lydia Van Wyck. General Hoke was, we believe, the youngest Major General in the Confederate Army.

Dr. Hoke's early years were spent in Raleigh, North Carolina. Entering the University of North Carolina, he received the degree of Bachelor of Science in electrical engineering in 1893 and was captain of the famous football team of that year. In 1895, he received the degree of Doctor of Medicine from the University of Virginia. Postgraduate study and research then followed at the medical schools of Johns Hopkins and Harvard. In 1897, he began private practice in Atlanta, Georgia, specializing later in orthopedic surgery.

On April 20, 1904, he was married to Miss Laurie H. Harrison of Atlanta. The union was a completely happy one, Mrs. Hoke entering fully into both his professional life and his many outside interests. Mrs. Hoke and their two children, Charles McGhee of Beaufort, South Carolina and Edward Jastrum of St. Louis, Missouri, and two grandchildren survived him, as did his brother, Mr. Van Wyck Hoke of Yanceville, North Carolina.

Dr. Hoke was a member of the American Orthopedic Association and its President from 1925 to 1926, presiding at the annual meeting of the Association held in Atlanta in 1926. He was a Fellow of the American Academy of Orthopedic Surgeons. He was one of the five orthopedic consultants for the Shriners' nationwide chain of hospitals for crippled children, which movement he had sponsored; he was also an important member of the advisory board of the Alfred I. Du Pont Institute for Crippled Children at Wilmington, Delaware.

The University of North Carolina conferred on him the honorary degree of Doctor of Laws in 1931. In this same year, at the insistence of President Roosevelt, he accepted the appointment of Medical Director of the Institution for the Treatment of Infantile Paralysis at Warm Springs, Georgia, resigning this position in 1935 to resume his private practice in Atlanta.

Dr. Hoke's contributions to orthopedic surgery have been many and have been internationally recognized. The original and valuable operative methods he devised for the treatment of certain disabilities of the feet are still known as "Hoke's operation for claw foot" and "Hoke's arthrodesis."

Hoke was a great teacher as well as a great surgeon. He inspired countless young men to acquire surgical skill and to emulate the highest standards of professional conduct, which he exemplified. He ploughed the field of medicine deeply, leaving the soil more productive for the labor of those younger physicians who had received their inspiration from him. "History shows you men whose master touch not so much modifies as makes anew"—Browning, had he known him, might well have placed Hoke in this category.

Dr. Hoke's chief relaxations were golf and hunting with the dogs, and he held membership in the Piedmont Driving Club and in the Druid Hills Golf Club. He was a thorough sportsman in the best sense of the word, loving "the wide-open spaces" and "the great out-of-doors."

Although Michael Hoke always felt intensely, and was unswerving in his loyalty to the South, he maintained an unusual breadth of view and was remarkably free from prejudice. On one occasion, he took a northern friend to see the great southern war memorial on Stone Mountain, which was then only partly finished, but the archi-

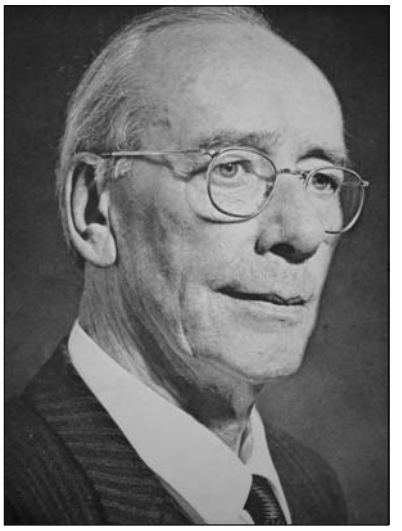
tect's drawings of the completed project were on view and were very impressive. Behind the key figure of General Robert E. Lee, the sculptor had planned to carve a group of other Confederate generals, one of whom would undoubtedly have been Dr. Hoke's famous father, Major General Robert F. Hoke. Dr. Hoke greatly admired the conception and was deeply moved at the thought of what the superb memorial would mean to the South.

As he and his northern friend were moving away, Hoke said to him, "I wish Borglum (the sculptor) would do one more thing. I wish he would place the figure of Abraham Lincoln on the summit of the mountain looking down on the whole group." To Hoke "the war was over," and he had recognized the spirit of the Great Emancipator and wished the South as well as the North to pay him tribute.

This slender ascetic looking man with dark and piercing eyes, a friendly smile, and a delightfully keen sense of humor must have been a sturdy youth in his student days. In later life, pulmonary disease and his strenuous work slowly sapped his strength but never his *bonhomie* nor his endearing kindness.

In 1937, he retired from private practice and moved with his family to the lovely old town of Beaufort, South Carolina. They called their home "Windy Marsh" and for a while Dr. Hoke's health was better, and his passing came as a shock to his numberless friends.

Justice Oliver Wendell Holmes has given us his ideal of living. "Life is painting a picture, not doing a sum; to hammer out as compact and solid a piece of work as you can; to try to make it first rate and to leave it unadvertised." Michael Hoke completely exemplified this ideal.



Sir Frank Wild HOLDSWORTH

1904–1969

Frank Holdsworth was one of the great orthopedic surgeons of his generation, but the achievements for which he will be remembered extended far beyond that. He was a fine teacher, a great innovator, and in his later years an almost fanatical campaigner for a sound and rational system for training the surgeons of the future. In this campaign his prime consideration was to get a square deal for the young man in training, and he was not prepared to subjugate this either to the needs of the National Health Service or the convenience of consultants. Few younger generations can have had such a redoubtable champion from the ranks of the older, and although for many years he was a voice crying in the wilderness—the wilderness in those days being anywhere north of Luton—he came in the end to be the most authoritative single voice in the country, listened to with equal respect in the highest academic circles and in the corridors of power. At the time of his death he was within an ace of seeing all the reforms and ideas for which he had striven so hard and so long finally accepted and put into practice.

Frank Holdsworth was born and brought up in Bradford and, apart from his years of training, first at Cambridge, where he was an exhibitioner, and then at St. George's Hospital in London, he spent the whole of his professional life in Sheffield. So he was a true Yorkshireman, and made no bones about it; which means that he was uncomplicated, direct, transparently honest,

warm hearted, occasionally irascible, utterly reliable, a bit stubborn (he used to say pig-headed), completely loyal and quite incapable of being spoiled either by power or success or anything else. Most people who scale the heights as he did are affected in some degree by it, but I doubt if he changed in the slightest during the 30-odd years that I knew him so well.

When he returned to Yorkshire, it was first of all as Resident Surgical Officer at the Royal Infirmary, Sheffield, where he came under the influence of Ernest Finch, another great surgeon for whom he conceived a lifelong respect and devotion. In those days there was no segregation of orthopedics and trauma, but within a few years and with the help and encouragement of Sir Ernest, he was elevated to the staff and given the job of creating an orthopedic and accident service. He developed it, as everyone knows, into one of the most famous units in Britain and a "must" for every foreign orthopedic surgeon visiting this country. It was at the Royal Infirmary that he later introduced the rotating registrar system, an innovation that has since become popular all over Britain, and he was justly proud of the fact that in all the years of its operation only one registrar left the rotation without gaining the FRCS.

Working as he did in a highly industrialized area of steel and coalmining, he always had a particular interest in accident surgery, and being the kind of surgeon who, to use his own words, liked to see the ball in the back of the net, he became one of an early pioneer group who developed the concept of rehabilitation in this country. This was under the auspices of the then Miners' Welfare Commission, before the advent of the National Health Service. Later, under the same auspices, he was one of a small group to visit Canada and the United States to study the problems of paraplegia, then a scourge in the mining industry. Paraplegia remained one of his major interests throughout the rest of his career and he became an international authority on the subject. Characteristically, on returning from this trip, he campaigned until he succeeded in establishing the spinal injuries unit at Lodge Moor Hospital in Sheffield, not as a center for dealing with the terrible complications of paraplegia but as an early transfer unit where these complications could be prevented. With Alan Hardy and David Evans he built this up to its present international stature.

It was on this trip to the States that he first saw the staff conference in action, notably in Boston, where once a week the entire staff presented their problem cases for discussion. The particular conference that we attended developed into an almost gladiatorial contest with such orthopedic giants as Smith-Petersen, Joe Barr, Bill Rogers and Eddie Cave taking part. Frank Holdsworth, who had visited many continental clinics where, in those days, contradicting the chief was tantamount to asking for the sack, was delighted and stimulated by the Bostonian atmosphere and promptly inaugurated the Saturday morning clinical conferences in Sheffield, over which he presided regularly up to the time of his death. These conferences were open to all orthopedic surgeons and their junior staff in and around Sheffield, and the atmosphere was delightful. They were completely informal and friendly, there was no showing off, and cases were presented only because they were problems about which advice was needed. He always insisted on starting the discussion at registrar level and working up in order to discourage any reluctance to disagree with the chief. His own intellectual honesty somehow washed off onto everybody who became regularly associated with him in this way, and although a little coat-trailing or kite-flying was occasionally permitted in order to liven up a discussion, the general rule was that, if you had nothing to say, you said nothing. He was a particularly severe debunker of loose thinking or armchair theorizing. On one occasion when my own kite had got a little out of control he prefaced his summing up by saying that he had never heard me talk quite so much out of my hat and then proceeded to take me apart and leave the pieces lying all over the floor. The juniors loved it, of course, but at the end of the conference he took me aside and asked if I would go along and see a patient with him because, as he said: "I think I've made a pig's ear of it"—another favorite expression of his, which, translated into standard southern English, meant that it was not quite coming up to expectations. It was small incidents of this kind that revealed something of the character of the man.

The same atmosphere prevailed in his unit. He had no time for sycophants or for any form of insincerity, and every member of his team was expected to say what he thought and call a spade a spade. He trained many fine surgeons, some of whom remained with him as consultants as the unit expanded, though they were always his "boys" even when they became famous in their own right. The unit always remained a team, every member regarding him with great respect

and affection. Indeed, this applied to everyone who worked with him, including the many foreign surgeons who came for a period of training in his department.

He was essentially a modest man and although he had so strong a personality and such gifts of leadership, he had that sense of humility about his own achievements that is so characteristic of many great men. Indeed, he was always faintly surprised at finding himself famous and sought after, and although he knew for years that the writing was on the wall, he refused to make any concessions. To the despair of friends and medical advisers alike, he continued to drive himself as hard as ever in the many high offices to which he was called—President of the British Orthopedic Association, Senior Vice President of the Royal College of Surgeons of England, Examiner to the College and to many universities apart from his own, and a much sought after lecturer in many parts of the world. Even in his last year he visited the United States twice and on the last occasion was made an Honorary Fellow of the American College of Surgeons—an honor very rarely awarded to surgeons outside that country. His knighthood in 1967, followed by a professorship in 1969 in his own university, made a fitting climax to a brilliant career. Few people go so far without leaving in their wake some enemies and detractors but Frank Holdsworth left none. Perhaps the secret lay in the fact that he was completely devoid of guile or malice, that he never contrived a situation in his life, and that at the end of it all, as Professor Sir Frank Holdsworth, he was essentially the same warm, unaffected, approachable and very human person as the young man from Bradford who started the orthopedic department at Sheffield Royal Infirmary more than 30 years earlier.

Of his other interests, he liked traveling, fishing, history, Westerns, good cooking, good conversation and good companionship. As a founder member of *The Journal of Bone and Joint Surgery* (he was on the original editorial board), he was also a founder member of the traveling club derived from it, and those of us who traveled with him will remember what a good companion he was. He could be equally stimulating and provocative whether defending the Plantagenets, whom he greatly admired, or extolling the beauties of his native Yorkshire and the inestimable advantages of living and working there, which he always insisted should remain a carefully guarded secret. "Don't ever explode this myth about the ugly uncivilised North," he would say, "or they'll all come up from the South and spoil it."

He was very happy in his home and family life. He left behind his wife Marjorie, herself a Yorkshire woman endowed with many of his own sterling qualities, his son John and his daughter Mary.

Dame Agnes HUNT

1867–1948

Believing that a fortune might be made in Queensland by breeding Angora goats, Mrs. Rowland Hunt, widow of the Shropshire squire whose estate lay in fertile plains between the villages of Baschurch and Ruyton-Eleven-Towns, gathered those of her 11 children who still accepted an imperious domination and arrived in Brisbane, intent on the purchase of a desert island. No desert island was for sale. No Angora goats were in Brisbane—indeed there were none throughout the length and breadth of Australia; but Mrs. Hunt refused to believe it and said that if there were no goats there ought to be. She did, however, weaken in her resolve and compromized by purchasing a 50-acre paddock in which to rear chickens. The stock was not good, and many chickens were born with crippling deformities, but Mrs. Hunt was undaunted and when she decided to amputate limbs with a carving knife and replace them with peg-legs made of Bryant and May matches, it was the duty of her youngest daughter Agnes to administer the anesthetic.

Agnes was then aged 16. She had been bred in a school of hard and rigid discipline. Her mother disliked children—"disliked them when they were coming, during their arrival, and most intensely after they had arrived." Her father "laughed immoderately at any accident." Her brothers induced a robust spirit of fearlessness; and the only governess who served the family with efficiency gave notice because the children "were allowed to kill themselves in too many different ways." When Agnes was aged 10 she developed septicemia and infective arthritis of the hip joint with high fever, sinus formation, and rapid destruction and dislocation of the joint; but within 9 months her bath chair was harnessed to a pony, which was raced until the chair was overturned, and within 12 months she was playing ice-hockey—on a home-made sledge, keeping goal. In later years she wrote of her mother: "Her psychology of childhood amounted almost to a crime but her treatment of me as a cripple was beyond praise. I was never allowed to pity myself or consider myself different. My brothers and sisters were never made to fetch and carry for me, and I joined in their play." It is true that at this age Agnes Hunt began her "apprenticeship to cripplepdom and the great education of pain"; she was destined to limp her way through life with stick or crutch; but already she had learned a first principle—the joy of life despite disability—and this was to be her great contribution to medicine.

When Mrs. Hunt decided that the Australian continent had failed to live up to expectation, Agnes knew that "you might as well try to stop Niagara as stop my mother when once she had made up her mind." But a proud spirit of determination in the mother had been inherited by the daughter and, when Mrs. Hunt decided to return to England, Agnes Hunt decided to stay in Tasmania to look after her brother Tom. She was influenced in this decision by an accident sustained by a young man who was felling trees. "In splitting a big tree, one of the wedges slipped and the great trunk closed over his hand, holding him fast. The poor lad's axe was just out of reach. He was found dead 2 months later and from the marks on his wrist he had tried to gnaw his hand off. I decided to stop."

In 1887, at the age of 20, having received three proposals of marriage in 1 day—"not very eligible ones" she wrote "but still rather a record," she left the Tasmanian ranch and returned home with her brother. Training as a nurse began as lady-pupil at the Royal Alexandra Hospital in Rhyl, North Wales, and the West London Hospital, Hammersmith. Her one and only term of night duty was devoted to a midnight game of catch-as-catch-can round the wardroom table, chased by an epileptic madman who threw inkpots at her while she threw jugs of water at him. At that time nurses lived in primitive conditions and engaged in astonishingly long hours of duty; the evening meal consisted of bread, cheese, and beer.

The life was hard and arduous, and was indeed a sacrifice. So impressed was this young girl with the adverse conditions under which nurses served that she made a vow: "If ever I rise to be Matron, no girl shall ever be the worse in health because of her work among the sick. This vow I kept." This vow, Dame Agnes Hunt, you did indeed keep. Today, in the Robert Jones and Agnes Hunt Orthopaedic Hospital the prowess of a nurse in the hockey field is almost as important as her skill in the operating theater. Never was a staff of girls more able, more happy, and more ready to give of their best.

It was in Rhyl, on the sea-coast of North Wales, that two fundamental principles of the nursing of chronic illness were learned—open air and happiness. The Royal Alexandra Hospital was perhaps the first hospital for cripples ever to advocate fresh air as an integral part of treatment; and it was the teaching of Miss Graham, one of the founders, that "no nurse is worth her salt if she has not the joy of life within her and the power of sharing it with her patients." In due course Agnes Hunt qualified. She was awarded the queen's badge and brassard, and spent a year in Northamptonshire nursing a typhoid epidemic. After resting in bed for 6 months on the instruction of a heart specialist, she engaged once more as a district nurse in treating 500 victims of a smallpox epidemic.

In 1900, "mother broke it to me that she was becoming old and deaf and intended to live with me. This was rather a blow." It was a blow because at first it appeared that the daughter's career of nursing might be ended; there could be no more travel and there could be no more responsibility as a district nurse. But, on reflection, this indomitable girl realized that it might still be possible to live at home and yet to nurse—and thus began the story of Baschurch, the pioneer convalescent home from which developed and spread throughout Great Britain and the world the ideals of country orthopedic hospitals, after-care clinics, preventive treatment, and resettlement of the disabled. Now, in 1948, the vast resources of the

Ministry of Health and the Ministry of Labour are engaged in the treatment and resettlement of nearly one million disabled persons. Orthopedic hospitals and after-care clinics have been established throughout the country. Hundreds of orthopedic surgeons and thousands of orthopedic nurses, physiotherapists, almoners, and resettlement officers are solving the problems of the crippled and the disabled. But what was the beginning? The beginning was: "mother intended to live with me." A small and broken-down country house with an estate of no more than three-quarters of an acre was adapted. The drainage was primitive; the garden was so run-riot that it was a jungle and became known as the lion's den; there were a few cowsheds with broken walls and leaking roofs—this was the Baschurch Convalescent Home. Very soon the accommodation was unequal to the demand and stables and cowsheds were used for sleeping quarters. The sheds were more damp and draughty within than without, so that open-air treatment was quickly enforced. The lesson had been learned in Rhyl—open air and happiness. Open air was inevitable. Happiness may be judged from the pages of *Ye Olde Baschurch Cripples' Journal*, produced in 1905 by two cripples and illustrated in color by Mrs. Rowland Hunt. The total circulation was two handwritten copies. An editorial, signed by Brother Aaron, reads:

What causes the most excitement is the picnics. We put the cripples on drays with springs and the others on wagonettes. When we have reached the spot planned, the horses are taken out and fastened to the trees and all the cripples who can't get about are put on rugs. Then we get sticks and put the kettle to boil and tea is ready in no time. We have a good game of something such as rounders. Those on crutches play as well but they are far more artful for when they are about a yard off the base they suddenly drop; of course the crutches reach it if they don't and they are let stand up as if they got there by fair means. All sing until they have hardly any breath left to sing the National Anthem. The people in the cottages all come out and by the look on their faces we could almost believe they wished to be ill just for the sake of the picnics.

There were picnics to the country and picnics to the seaside. The famous pony, Bobby, "the dearest and wickedest of ponies," made history for himself when he was so often left in sole charge of a cargo of cripples. Sir Frederick Kenyon recorded an incident in verse. Motor cars had recently been introduced; the roads of Shropshire were narrow; and the Baschurch Home was out for a picnic as usual. Bobby met Jonathan Hustler's new car with its rush and hoot and roar.

Bobby thought this is something new, something very unpleasant too! It may be right but I don't quite know, so back to home I am going to go. Round he turned with his precious load, and off he set in the middle of the road. The road was narrow, the road was long; Jonathan's language grew very strong. He hooted, he tooted, he shouted, he swore; Bobby went steadily on before. The neighbours laughed to see the sight; Bobby looked neither to left nor to right; till the dray and the whole of its cripple crew, safely back to the home he drew. When Jonathan started out that day, he swore that nothing should bar his way, though police traps in every hedge were hid, no bobby should stop him. But Bobby did.

Three years later, recurrence of infection in the hip joint made it necessary for Sister Hunt to consult Robert Jones in Liverpool. For some months thereafter she was immobilized on a Jones' abduction frame. "Immobilized" is perhaps hardly the term to use in relation to Agnes Hunt, even when she was secured on a spinal frame with its bars, bandages, and traction tapes. She wrote:

One day, soon after I had returned from the Royal Southern Hospital and was still on a frame, I drove the black cob in the dray to Shrewsbury to do my Christmas shopping. I had several cripples with me, one of whom was disabled only in the arm and could climb on and off the vehicle to ask the shopkeepers to come out. As luck would have it the cob was restive and a new bobby came up and asked who is in charge of this horse? With all the dignity I could muster I replied haughtily that I was. A frame is not an instrument that adds to one's dignity and the bobby's only answer was that he considered it unsafe and must take my name and address. I told him, and thinking to impress him added that I used to live at Boreatton Park. Unfortunately he knew this place only as a private lunatic asylum; my brother had let the house for that purpose some time after my father's death. The policeman remarked acidly that it was just the sort of place he would have expected me to come from.

This association with Robert Jones was a milestone by which the Baschurch Convalescent Home became an orthopedic hospital. McCrae Aitken was at that time house surgeon at the Royal Southern Hospital, Liverpool, and he wrote:

There arrived from time to time in the out-patient clinic, a woman, an outside porter from the railway station, and a homemade handcart like a baker's tray on perambulator wheels. The cart contained crippled children, perhaps as many as eight, in various forms of splints. The woman was Miss Hunt of Baschurch. A return train had to be caught so the party was soon inspected. Those requiring operative treatment were admitted; cases left at a previous visit were put on the handcart; it was as simple as changing books at the library.

The outside porter was employed on arrival at Merseyside because this was so much cheaper than bringing an assistant from Baschurch. Even the perambulator wheels were of significance. The railway ticket for a child's perambulator cost only one shilling; the ticket for a handcart was much more expensive; and it needed only the good-humored domination of Miss Hunt to persuade railway officials that this unusual form of transport was indeed a perambulator.

As work increased, Robert Jones himself went to Baschurch and operating lists were performed every month on the kitchen table. Doctor Urwick of Shrewsbury accepted the responsibilities of medical superintendent. More and more beds became available and the facilities were steadily improved. After the 1914–1918 war, a hutted army hospital was taken over. Many original huts still remain and the private wing, known facetiously as Harley Street, consists still of the horse-boxes, which were unwanted after the first war. Staff was gathered and the talent of Alwyn Smith, Girdlestone, Naughton Dunn, McCrae Aitken, and many other distinguished contemporary surgeons, made it certain that the Baschurch Convalescent Home should serve the county and become the Shropshire Orthopedic Hospital, and in due course should serve the whole country and become the Robert Jones and Agnes Hunt Orthopedic Hospital. Gradually, the hospital was rebuilt in accordance with Agnes Hunt's ideals. "I can see in my mind's eye a hospital with its long, low, one-storied wards and big French windows opening out on to lovely lawns, flowers, and big spreading trees. Is this dream impossible?" It was not impossible; John Menzies saw to that. He was the man who was "found" by Sister Hunt, was inspired by her, and for so many years had served faithfully as secretary–superintendent. Under his direction new open-air wards were built; the gardens, lawns, and trees, which were imagined by Miss Hunt, became a reality; and the laboratory facilities, x-ray equipment, and operating theaters, which are essential features of a modern hospital, became available. Consultants visit from Liverpool, Manchester, Birmingham, Cardiff, and London. The resident staff includes surgeons from England, Scotland, Ireland, Wales, Australia, Canada, South Africa, and the United States of America.

A short visit to this hospital may convey the same impression as a visit to any other important country orthopedic hospital. Was this the contribution of Agnes Hunt? It was one of them; but it was perhaps the least. As early as 1907 it had become obvious that extensive accommodation and excellent facilities in the central hospital did not solve the problems of preventive treatment and follow-up supervision. Many families had spent their lives in the wilds of Blaenau Ffestiniog, or some remote hamlet, with a geographical horizon limited to a 20-miles radius. Were they to be expected to travel with a crippled child to Shropshire, a journey that seemed as venturesome as one of the explorations of Columbus? And if initial fear was overcome, and the child was admitted to hospital, could the week-by-week supervision of after-treatment be continued over many months and years when every hospital visit called for one day's travel in each direction? It was not enough for the patient to go to the hospital; the hospital must go to the patient. And so a system of after-care clinics was established—a plan that may now appear obvious but which at that time called for vision, enterprise, and a complicated organization. The first after-care center was established in Shrewsbury, and as the influence of the hospital widened, so were its outposts created. Today, in an area that includes many counties, and covers hundreds of miles of rural and sometimes densely populated country, there are 36 after-care centers visited daily or weekly by orthopedic nurses, physiotherapists, and social service workers, and at less frequent intervals by orthopedic surgeons from the parent hospital.

In this activity Agnes Hunt was responsible for the development of a vast scheme of voluntary service, which might well be recalled in this day of state direction and centrally planned health service. Every clinic is served by a County Voluntary Orthopedic Association. Hundreds of women, previously untrained as nurses but quickly acquiring sufficient knowledge to recognize early cases, using their influence to ensure that such cases were brought within the ambit of the center and thus applying themselves to the important tasks of preventive treatment, learning

to carry out the instructions of orthopedic nurses and orthopedic surgeons, giving encouragement and moral support to cripples and their parents during long months and years of treatment, have devoted their lives and given whole-time service, 5 days a week, throughout the last 30 years. They were inspired by Agnes Hunt because she worked with them; she herself attended the clinics and was one of them. Let us hope and believe that this spirit of devotion, which has been maintained for a full generation, will not be dispelled, or even dimmed, by the reforms of hasty planning.

It was in 1927 that Sister Hunt succumbed to the stimulation of Robert Jones and agreed that the problem was not yet solved. It was not enough to search out cripples and arrange hospital and after-care treatment. Crippled adolescents must be taught not only the joys of normal recreation but also the responsibilities of normal work. A retraining scheme was necessary. She wrote: "I collected four boys, already training in the boot and blacksmith's shops, and two girls from the splint-making department, and solemnly informed them that they were 'The Shropshire Orthopedic Training School for Cripples.' They were suitably impressed but were anxious to know what happened next. As this was more than I could tell them the meeting adjourned." Miss Hunt decided to write to the County Councils and Poor Law Guardians and "offer this splendid opportunity of making their cripples self-supporting." The replies flabbergasted her. "Before you could say 'knife' we had one hundred and fifty names on the waiting list: and not even a hut to put them in. Where were they to be housed and fed? What trades would be suitable? What about instruction? How would the hospital committee take this new venture? And where on earth would the money come from?" As usual, enthusiasm came first; but accomplishment came next. With Miss Sankey, who is well remembered as a superb after-care superintendent, Miss Hunt moved into the Derwen, which was to become the Cripples' Training College. There was an early stage when, after being granted £50 by the committee, "we also annexed some unconsidered trifles from the hospital." In the next stage Miss Hunt tried to work out the cost of surgical boots and wrote: "Ten shillings for leather and two days of man's time at three pounds ten shillings a week plus 5 per cent profit equals—? Eventually I put *x* which I had been told meant an unknown quantity, and went dismally to bed." Mathematics and financial acumen were not her strong points but, within a year, Mr. Rhaiadr Jones and his wife were appointed manager and matron, and thereby the Cripples' Training School gained the services of a first-class financier and a devoted woman, who have applied themselves to this task. A college was established for the training of crippled children, of whom no less than 90% have made their own livings.

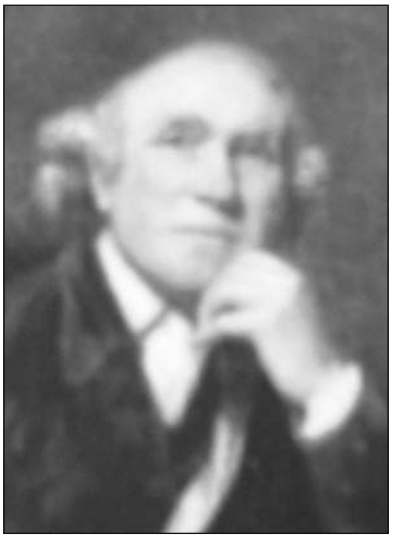
Twenty years later, the Disabled Persons' Employment Act was passed by the government of this country, and the Disabled Persons' Corporation was established. Of the one million disabled who are now registered in Great Britain, a high proportion have been trained to take their place in the open labor market and have proved themselves to be no less efficient than their able-bodied colleagues. Those few whose disabilities were so grave that they could not have been expected to compete in the open market have been engaged in the sheltered factories of the Disabled Persons' Corporation, the trade name of which is "Remploy." At the same time voluntary effort has continued at the St. Loyes' College for Training and Rehabilitation of the Disabled, Exeter; the Queen Elizabeth's Training College for the Disabled, Leatherhead; the Heritage Crafts' School, Chailey; the Lord Roberts' Memorial Workshops; the John Groome's Cripplage; the Robert Jones' Workshops; the Papworth and Enham Village Settlements; the St. Dunstan's Institutes for the Blind; the National Institute for the Deaf; and the Duchess of Portland's Training College for the Disabled, Nottingham. Little did those four boys and two girls realize, when they were appointed solemnly as a training school for cripples, that they were to be forerunners of a great reform in resettlement of the disabled, of which Great Britain is now proud.

Agnes Hunt, the "Florence Nightingale of orthopedic nursing," who received the Royal Red Cross in 1918, and was created a Dame of the British Empire in 1926—the highest honor that can be awarded to any woman in this country—was responsible for important advances in preventive treatment, the creation of an orthopedic hospital, the organization of an after-care system, and the development of a Cripples' Training College. Shortly before she died, she asked herself to name the essential qualities of a nurse and replied: "Common sense, gentleness, kindliness, and the power of giving hope and joy to those who are suffering." In these words she linked herself with those who are ageless, for was it not Galen who wrote: "Confidence and hope do

more good than physic. He cures most in whom most are confident"? Most were confident in Agnes Hunt. At the early age of 11 she learned to enjoy life despite disability; at the age of 81 she died as she had always been—cheerful, brave, courageous, indomitable. She proved by example rather than by precept, and the decision of history may well be that the greatest of all her contributions was her own life.

Reference

The quotations in this appreciation are from *This is my Life* by Agnes Hunt (Blackie & Sons, Ltd., London, 1933) and *The Story of Baschurch* (Caxton Press, Oswestry). I am also grateful to Mr. Rhaiadr Jones for access to many unpublished documents.



John HUNTER

1728–1793

John Hunter was born on February 13, 1728, at Long Calderwood, a small estate in Lanarkshire about 7 miles from Glasgow. His father, whose name was also John, was one of the Hunters of Hunterston in Ayrshire—an old Scottish family. He and his wife Agnes had ten children, of whom William was the seventh, and John the youngest. Both brothers achieved fame as anatomists but they were very dissimilar in temperament and character.

William was diligent as a boy, and at the age of 14 went with a bursary to Glasgow University, where he studied for 5 years. Afterwards he spent a short time in Edinburgh, and finished his medical training at St. George's Hospital, London. Later he started a school of anatomy in Covent Garden, which soon acquired considerable reputation by reason of the facilities he offered for dissection, and his own capacity as a lecturer. In 1770 he transferred the school to Great Windmill Street, where a building had been erected with lecture theater, dissecting rooms, and museum. He had already been elected physician–accoucheur at the Middlesex Hospital and later was appointed Physician Extraordinary to Queen Charlotte; but his main interest was anatomy, and he lectured upon it to the end of his life. He was elected a Fellow of the Royal Society, to whose transactions he contributed a paper "On the Structure and Diseases of Articulating Cartilages." In this communication he was the first to give a clear account of the structure and arrangement of synovial membranes.

John Hunter was 10 years younger than William Hunter. In early life he had none of the studious habits of his elder brothers, both of whom went to a university, one studying medicine and the other law. Being the youngest, and favored by his mother, John was somewhat undisciplined. He was averse to schooling of any kind but gave early evidence of the thread of his peculiar genius when he rambled in the woods, watched ants, bees, birds, and tadpoles, and pestered country folk with simple questions on natural history. Until the age of 20 his mind remained fallow and untroubled, but on the verge of manhood he woke from slumber and for the next 45 years worked so prodigiously in the production and study of scientific material in medicine and biology that the like of him has not been seen again. He began by joining his brother in the school of anatomy. He soon acquired such patience and skill as a dissector, and such knowledge of anatomy, that within 12 months he was appointed demonstrator. He studied surgery under Cheselden, and afterwards under Pott, the two master surgeons of the day. Later he enrolled as a pupil at St. George's Hospital, and in due time became house surgeon. In 1759, through overwork in the dissecting rooms, he developed pneumonia; symptoms appeared that were suggestive of tuberculosis. He therefore sought a change of work and secured appointment as a staff surgeon in the army. He sailed with the expedition to

Belleisle, and in the war with Spain served on the frontier of Portugal. This gave him extensive experience of gun-shot wounds, which was embodied in his "Treatise on the Blood, Inflammation, and Gun-shot wounds."

He left the army after 2 years' service, took a house in Golden Square, and began his career as a surgeon. Having spent 12 years in the dissecting room, and carried out many researches, he brought to the practice of surgery a mind trained in scientific investigation. Private practice was subordinated to the study of comparative anatomy and biology, which demanded all the time and money that he could devote. He acquired specimens from the menageries—dissecting the bodies of animals that died; and in order to study living animals both by experiment and by observation of their habits, he bought, in 1764, 2 acres of land at Earl's Court, which at that time was in the country, 2 miles beyond London. There he organized an experimental station and housed a great variety of wild and domestic animals from all over the world. He studied the structure of innumerable living organisms and observed the effects of disease and injury upon it. Dissected specimens were preserved carefully, and thus was built up an anatomical and pathological museum, which became the bedrock of scientific study of surgery in England. He was elected a Fellow of the Royal Society in 1767 and was awarded its Copley Medal. In the next year he was elected surgeon to St. George's Hospital and soon afterwards became a member of the Corporation of Surgeons. The pupils he attracted, who afterwards achieved great distinction, included Edward Jenner, Abernethy, Cline, Earle, and Astley Cooper. Unlike other teachers, his lectures on surgery were based upon rational pathology; he insisted that the principles of surgery must first be understood before the cause of disease could be appreciated. But he had none of the eloquence of his brother; extempore expression of the thoughts that surged within him did not come easily. He read almost entirely from manuscript and even then his language was labored. But it was what John Hunter had to say that was important rather than his manner of saying it. The casket was unadorned but the treasure within was of great value.

Soon after election to the staff of St. George's Hospital, he moved to a house in Jermyn Street, previously occupied by his brother, which was nearer to hospital, better situated for private consulting work, and offered greater accommodation for his increasing collection. A few years later he married Anne Home, a lady noted for her beauty, wit, and accomplishment—a social figure in the world of art. She wrote the words for Haydn's "Creation" and the stanzas for his English canzonets, the best known of which begins with the words "My mother bids me bind my hair." They lived in Jermyn Street for 14 years until the ever-growing museum overran the house and forced Hunter to seek still more spacious accommodation. In 1785 he moved to his last abode, a large house on the east side of Leicester Square. He bought another house close by and, on the land between, built a suite of rooms and a great museum. In his new quarters the dissection and collection of natural history specimens went on apace. At the same time his practice grew to such an extent that on the death of Percivall Pott in 1788, Hunter succeeded him as the first surgeon in England. In his attention to patients he was thoughtful and self-sacrificing; he gave his services free to non-beneficed clergy and struggling artists.

Hunter took a conservative view of operations and always aimed at diminishing their severity, regarding many of them as an imperfection of the art of healing. He was deeply impressed by the natural resistance of the body to disease, and by its struggle against anything impairing the function of one of its parts. The sole business of the surgeon was that of a helper, claiming no more for his operation than lending his aid in that resistance and that struggle. It was appreciation of this inherent power of living tissues that led to his classical operation for popliteal aneurism. He was alarmed at the high mortality of prevailing treatment by amputation, or double ligature with evacuation of the blood sac. He had tied one of the external carotid arteries of a stag in order to observe the effect upon growth of the corresponding antler; to his surprise the horny outgrowth still kept growing. Wondering what had happened to his ligature, he had the animal killed for inspection and to his amazement Hunter found that small branches of the artery above and below the occlusion had enlarged under "the stimulus of necessity," and by their anastomoses had restored blood supply to the growing part. He argued that if in the deer, collateral vessels could maintain circulation after ligation of the main artery, the same should happen in the human lower limb after occlusion of the femoral artery by single ligature. Acting upon this deduction, in 1785, he tied the femoral artery in the lower part of the thigh

in a patient at St. George's Hospital with a popliteal aneurism. Within 6 weeks the man left hospital with his life and his limb. The fibromuscular sheath through which the femoral artery passes has ever since been known as Hunter's canal. The evolution of this operation illustrates John Hunter's scientific approach and appeal to experimental methods in seeking the solution of surgical problems—an approach that in his day was strange, no matter how familiar it may be in ours.

An investigation of great interest to orthopedic surgeons was prompted by a personal injury. In 1767, while dancing, he ruptured his tendo achilles. Thereupon he studied in animals the manner of reunion of divided tendons. "He divided the same tendon in several dogs, by introducing a couching needle under the skin at some distance from it, and killed the dogs at different periods to see the progress of the union, which was found to be similar to that of fractured bones where the skin is not wounded." His museum included fine specimens of tenotomy from the ass and deer. The ends of the divided tendons had retracted but "the uniting medium was not distinguishable from the tendon itself except by being less glistening, by its fibres being less regularly parallel and longitudinal, and by its surfaces being united with the surrounding fibrous textures." Hunter observed that repair of the tendons proceeded just like that of simple fractures, and without suppurative inflammation. This was an important statement of a principle. Upon it was founded the practice of subcutaneous surgery, which, until the coming of Lister, was the only safe operative procedure for the cure of deformities.

He attempted the transplantation of tissues and successfully implanted a sound human tooth into a cock's comb. This striking experiment demonstrated his zeal and patience, for it was accomplished only after many failures. In the remarkable specimen preserved in his museum could be seen the injected blood vessels of the comb penetrating the tooth. He thus proved that tissues of low metabolism could be grafted elsewhere if the blood supply was adequate—a principle upon which depended the successful bone grafting of later days. Bone growth aroused his interest. After much experimental work on pigs he laid it down that long bones are lengthened from the ends near the epiphyses, and not by interposition of new bone in the interstices of the old. Furthermore he showed that a bone became thicker by the deposition of new matter subperiosteally; and that bone is constantly undergoing change with simultaneous absorption and deposition of osseous tissue—an observation confirmed later by the microscope.

Study of the structure and function of the human body was only part of Hunter's work. His labors covered the whole field of natural history. In what does life consist was a question often in his mind. He regarded it as a principle tenaciously held and independent of structure. He sought to unfold the various phases of life. In his quest he dissected over 500 different species of animals and numerous varieties of plants. His search ranged from the spermaceti whale, with its aorta a foot in diameter, into which passed at each heart beat 12 gallons of blood, to the life of the bee, which he watched for 20 years. His study of the structure and of the social habits of this honey-making insect was so extensive and protracted that it was only close to the end of his life that he collected his records together for publication in the *Transactions of the Royal Society*. If this had been his only contribution to knowledge, his name would have been memorable.

Although later years were handicapped by ill health, he never slackened in the pace of his scientific work. His day started at six o'clock in the morning and ended well after midnight. For the last 20 years of his life he drank no wine. In 1785 he had his first attack of angina, and for 8 years suffered periodical prostration, his life at times being held precariously in the balance. During this period he was well aware that emotional excitement might bring on a cardiac catastrophe. On October 16, 1793, he attended a board meeting at St. George's Hospital. In a discussion about the admission of pupils to the hospital his feelings were roused. His old malady was stirred to activity. He rose from the table, hoping to control his symptoms, but had hardly reached another room when he fell groaning into the arms of a colleague and died. He was buried in the vaults of St. Martin's-in-the-Fields. In 1859 Frank Buckland spent 16 laborious days searching for John Hunter's remains. At last he found them. On March 28 the same year they were buried with great honor in Westminster Abbey.

John Hunter dedicated his life to scientific investigation and the building of a great museum. He gathered together thousands of his own dissections; even in his last years his assistant tells how he often saw him "standing like a statue for hours over some delicate bit of dissection." Well

has it been said that "he made his name immortal by the labour of his own hands outside the sphere of surgery." The care of the collection, which contained over 13,000 specimens, caused some anxiety to Hunter's family, but in young Clift his assistant they found a faithful and devoted guardian. For 7 years he kept watch, preventing deterioration in the soft specimens, and making copious extracts from the manuscripts. On June 13, 1799, the government bought the collection for £15,000 and transferred it to the care of the Corporation of Surgeons. A charter was granted to the Corporation on March 22, 1800, whereby they were constituted the Royal College of Surgeons in London and were empowered to examine candidates for the Membership. The surgeons gave up Surgeons' Hall and moved to a house in Lincoln's Inn Fields. In 1806 Parliament granted £15,000 to the College to build a museum and 3 years later another grant of £12,500. The surgeons themselves spent over £21,000 of their own money. By a charter of 1843 the title of the College was changed to the Royal College of Surgeons of England and the Fellowship of the College was instituted.

John Hunter has exercised a profound influence on British surgery. This was achieved not by social gifts or personal attraction, but entirely by his scientific mind. When he started dissecting, 3 years only had passed since surgeons had ceased to be associated formally with the "art and mystery of barbers." But through his immense labors in comparative anatomy, physiology, and pathology, he raised the status of surgery to that of a scientific profession. In his quest for truth by observation and experiment he displayed a penetrating vision, extending far beyond the horizon of his own time. His country experimental station long anticipated "Down House," which is now the experimental farm of the Royal College of Surgeons. Most of his teaching is inevitably bound in the corpus of surgical doctrine and has lost its identity. Like Lister, he was interested in the phenomena of inflammation and coagulation of the blood, but he was denied the use of a microscope and he little dreamt of a world of microorganisms. But his keen intellect noted and stressed mysterious variation in the reaction of tissues to injury according to whether the skin was broken or unbroken. If the skin was intact the healing process proceeded smoothly; whereas with a broken skin suppuration was the rule and repair was disturbed and delayed. And he pondered why. His great museum is the proud heritage of the Royal College of Surgeons of England and it is fitting that on the anniversary of his birthday an oration in praise of him should be delivered by a distinguished disciple.

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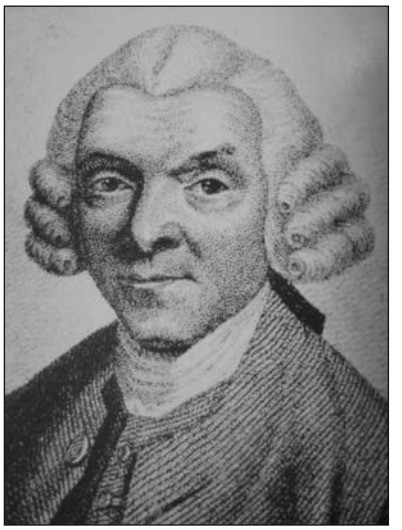


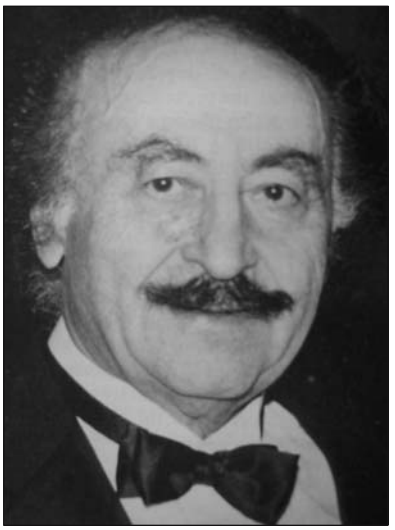
William HUNTER

1718–1783

William Hunter, John Hunter's older brother, was born in rural Scotland. He was well educated in Glasgow, Edinburgh, and London. In 1846, he began giving a series of lectures on surgery. He was an excellent speaker and became a very successful teacher. He was an avid student of anatomy and became the first great teacher of anatomy in England. Hunter developed an institution for teaching and studying anatomy on Great Windmill Street in London. He gradually shifted the emphasis of his practice from surgery to obstetrics. His most important work was the book, *The Anatomy of the Gravid Uterus, Exhibited in Figures*.

The article on the anatomy and pathology of the articular cartilage was published early in

Hunter's career. His description of the cartilage was far in advance of his time. The article also reveals the wealth of anatomic material available to the author. The "subjects," including the bodies of children, were procured largely through the services of "resurrectionists," that is grave robbers. The common disease of the joints in Hunter's time was tuberculosis. The acuity of his observations deserves our admiration.



Gavriil Abramovich ILIZAROV

1921–1992

Gavriil Ilizarov made a remarkable life odyssey from an isolated village in the Caucasus mountains to become a world figure in orthopedics and one of the most decorated medical scientists in the Soviet Union. He was born in a small Jewish community and was unable to attend school until he was 11 years old because his family had no money for shoes.

He graduated from Simferopol Medical School, which had been moved during the war to the Soviet Near East, and in 1944 was sent to the Siberian town of Dolgovka as the only physician for an area the size of a small European nation. In 1949 he was promoted to become a staff physician at the hospital in Kurgan, Western Siberia, where he was faced with the daunting task of treating many patients with war wounds that had progressed to limb-threatening unhealed fractures, infections, and other complications. Working conditions were primitive: there were no antibiotics and little equipment, and the operating room was heated by a wood fire.

Nevertheless, in the two-storey wooden-frame hospital, he invented and developed the remarkable methods and equipment by which he became known. By 1951, he was using his devices to treat complex and infected fractures and to lengthen bones. His theory that bone would grow if gradually distracted and his external fixator, of circular steel haloes connected by rods and bone-fixating wires, produced dramatic results not seen before in orthopedics. His work was the beginning of a new medical paradigm, the conservation and exploitation of the unlimited natural plasticity of bone.

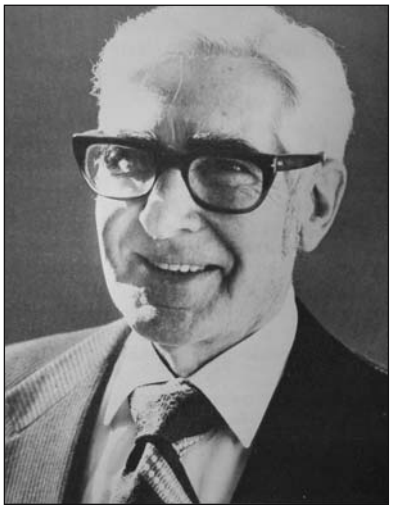
Although Dr. Ilizarov's results were astonishing, his theory was contrary to orthodox views on bone regeneration. His reputation remained confined to Siberia until 1967, when he successfully treated the Russian Olympic highjumper, Valery Brumel who, after a motorcycle accident, had chronically infected nonunited fractures of both legs, even after 14 operations by the best surgeons in Moscow. After treatment by Ilizarov, Brumel, completely healed, went on to jump again in competition.

Dr Ilizarov's years in a small wooden hospital with no research laboratory were over. It became known that he could straighten and lengthen a shattered or deformed leg and the Russian elite in need of orthopedic care journeyed to Kurgan. His medical reputation soared into national prominence and by 1984 he presided over a new 1,000-bed Scientific Center for Reconstructive Orthopedics and Traumatology, with over 350 surgeons, 1,500 nurses, 60 doctorate researchers, and 24 operating rooms.

By 1986, North American orthopedic surgeons had learned the Ilizarov techniques from Europeans who had worked directly with him, and were performing Ilizarov limb-saving operations. The use of his methods is widespread: the North American Association for the Study and Application of the Methods of Ilizarov (ASAMI) now includes over 200 surgeons.

Dr Ilizarov was one of the Soviet Union's most decorated civilians, receiving the Order of Hero of Socialist Labor, the Order of Lenin three times, appointments to the National Academy of Sciences and the Soviet Parliament, as well as the highest civilian honors of Italy, Yugoslavia and Jordan. His work is now widely known throughout the world and will have an enduring impact on the relief of suffering patients. He was truly a

remarkable man whose theories and surgical methods have enlightened physicians and saved countless limbs. He died on July 24, 1992 at the age of 71 in Kurgan, Russia. He leaves behind his wife, Valentina, his children Svetlana, Maria and Alexander, and his three grandchildren.



Verne Thomson INMAN

1905–1980

Born in San Jose, California, in 1905, Dr. Inman lived out his life in the state that was kind to him and provided him an education at its university campuses in Berkeley and San Francisco. He repaid the state many fold by serving on the faculty of the medical school in San Francisco for 48 years, including a term as Chairman of the Department of Orthopedic Surgery from 1957 to 1970.

Although Dr. Inman was most widely known and respected for his erudite investigative studies, those who knew him closely remember him as a light-hearted, congenial, informal individual who was as much at home in the campus maintenance shops as in the Chancellor's office. His cheerful greeting for secretaries, nurses, students, professors, cooks, and administrators was always on a first-name basis. When summoned to the telephone by a consultative call from Washington, D.C., he was apt to be found in the brace shop assisting the prosthetist or in the anatomy laboratory, accompanied by a student or two, dissecting a bear's foot. All of the visitors to his laboratory will remember the many ingenious models that he constructed and delighted in displaying to illustrate fine points of functional anatomy. He was equally proficient in designing and constructing innovative parts for the elaborate model train ensemble housed in his home.

Dr. Inman always felt that he was not a joiner. He preferred to spend most of any leisure time with his family, Irene (the former Miss Cootay of Hilo, Hawaii) and they were very close throughout their life together. Nevertheless, Verne was a member of many professional societies, which he chose to support in the scientific arena rather than in the committee structure. The major exception was The American Orthopedic Association, which he served as Vice-President in 1964.

Dr. Inman was an outstanding teacher. His boundless enthusiasm quickly captured his audiences, which had no difficulty in following his crystal-clear presentations. He was a superb clinician, but the needs of his patients seemed almost to be forgotten in his zeal to understand and relate to the patients the intricacies of their disabilities. As he often said, "Once I have arrived at the solution of a patient's problem, I am content to relegate the implementation to others." He disliked committee function and perfunctory administrative duties with a passion. Above all, he was possessed by a consuming curiosity that led him continually to ask questions and seek solutions, all the while maintaining a resolute scepticism when confronted by superficial or pat answers.

Verne T. Inman, MD, PhD, the scientist, probably did more than any individual before him to define and refine the role of "man the machine." It was he who defined normal locomotion in terms of its component parts for ease of understanding and application to disturbed function. The exactness of his measurements established demanding standards for contemporary investigators as well as for those who will follow. His remarkable ability to simplify concepts and formulate principles enabled him to see clearly what others often saw dimly.

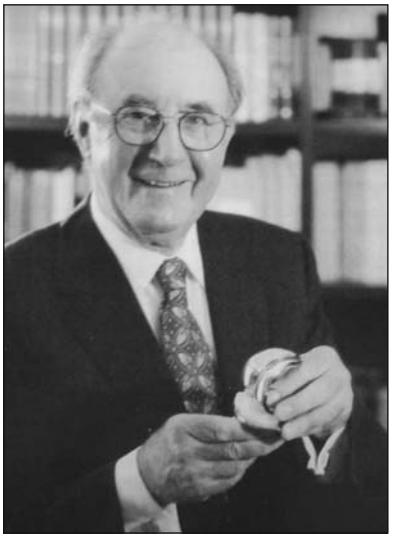
That his greatest contribution to orthopedics would be in research was by design. On graduation from college in 1928, he initiated his master's program as a medical student, and filed his thesis on cutaneous nerve distribution in 1929. After graduation from medical school in 1932, he accepted an appointment in the anatomy department and immediately embarked on his doctorate program. His thesis dealing with the growth of the human fetal cranium and appendicular skeleton in

relation to sitting height was published in 1934. A study of the intervertebral disc, in conjunction with Dr. Howard Naffziger, was completed during his residency and published in 1938. From that time forward a continuous stream of substantive reports was added to the medical literature.

Shortly after his classic report, "Observations on the Function of the Shoulder Joint," appeared in *The Journal of Bone and Joint Surgery* in 1944, Dr. Inman was approached by the Committee on Prosthetic Devices of the National Research Council and urged to accept a federal grant for the purpose of improving artificial limbs. He joined forces with Dr. Howard Eberhart, Professor of Engineering, and they accepted the challenge. Thus began the lower-extremity prosthetic devices research project in the School of Engineering, Berkeley, and the subsequent development of the Biomechanics Laboratory in the Department of Orthopedic Surgery, San Francisco.

The ensuing research activities solidified Dr. Inman's interest in biomechanics and consumed most of his creative energies for a period of nearly 30 years, during which nearly 40 major reports were published.

He lived the final decade of his life at a more leisurely pace. He and Irene found more time to spend at the family farm in the Santa Clara Valley, where Dr. Inman cultivated unusual plants and fruit trees. At the university he wound down his research activities and completed a monograph, *The Joints of the Ankle*, which was published in 1976. Death came quietly to Dr. Verne Thomson Inman on February 5, 1980, in San Francisco at the age of 74 after a brief illness. He was survived by his wife Irene, three sons, six grandchildren, and a multitude of friends, former students, and colleagues, all of whose lives have been wonderfully enriched by his presence among them. Just 3 weeks before his death he met with his editorial staff to put the finishing touches on the exhaustive treatise, *Human Walking*.



John N. INSALL

1930–2000

John Insall was born in 1930 in Bournemouth, England, by the sea. He was educated at the University of Cambridge and at London Hospital Medical School, graduating in 1956. He received his training at St. Bartholomew's Hospital in Kent and at the Royal Free Hospital in London. He then served as a resident in general surgery and orthopedic surgery at the Royal Victoria Hospital and at Shriners Hospital for Crippled Children in Montreal. In 1961, he was awarded a fellowship in orthopedic surgery at the Hospital for Special Surgery in New York City.

After 2 years of practice in England, he returned to the United States in 1965 as an attending surgeon and director of the knee service at the Hospital for Special Surgery. He served as professor of orthopedic surgery at Cornell University Medical College from 1980 to 1996. In 1991, he joined with Drs. W. Norman Scott, Michael A. Kelly, and Peter D. McCann to form the Insall Scott Kelly (ISK) Institute for Orthopedics and Sports Medicine at New York City's Beth Israel Medical Center. He served as director of the ISK Institute and its fellowship program. In 1996, he was appointed clinical professor of orthopedic surgery at the Albert Einstein College of Medicine.

Dr. Insall was a founding member of the Knee Society in 1983 and became its president in 1987. He was instrumental in the development of the Knee Society scoring system. His colleagues rec-

ognized his many achievements by establishing the Insall Award, which honors an outstanding paper concerning clinical results and techniques at the annual open meeting of the Society.

John Insall's contributions to orthopedic surgery are legendary. His articles appeared in *The Journal of Bone and Joint Surgery* over four decades, beginning with reports on his experience with valgus tibial osteotomy for the treatment of osteoarthritis of the knee. Subsequent articles dealt with techniques for the treatment of patellar chondromalacia and malalignment as well as iliotibial band transfer for the treatment of knees with anterior cruciate ligament deficiency. His most outstanding publication is the classic book *Surgery of the Knee* (now in its third edition), coedited by his colleague and dear friend Dr. Norman Scott.

Dr. Insall will be most remembered for his numerous contributions to knee arthroplasty. His work with the total condylar knee prosthesis began in 1974 at the Hospital for Special Surgery, and, with Albert Burstein, he designed the Insall–Burstein knee prosthesis, first implanted in 1978. With Michael Freeman, he pioneered the philosophy of excision of the cruciate ligaments and soft-tissue releases during knee arthroplasty. Among his special talents was his ability to devise arthroplasty techniques that were forgiving yet effective, allowing countless otherwise crippled patients throughout the world to resume normal lives. His most recent design innovations involved mobile-bearing inserts and fixed bearings that allow high degrees of flexion.

Dr. Insall also developed exposure techniques (for example, the "quadriceps snip"), quadricepsplasty for the treatment of patellar instability, ligament releases for the treatment of angular deformity, and intraoperative guidelines for femoral component rotation. He was a pioneer in the two-stage revision for septic knee arthroplasty. In addition, he was responsible for the design of many instruments used intraoperatively to facilitate the accurate implantation of prosthetic components.

His long-term follow-up studies of clinical results in various populations of patients, such as those who are young, elderly, or obese and those who have diabetes, psoriasis, or poliomyelitis, are the gold standard against which all future results will be compared.

John Insall was an acknowledged master surgeon. His clinical skills were complemented by his equally strong ability to teach others by both word and example. Some 60 surgeons, many now world-renowned themselves, served as his fellows. They formed the Insall Club in his honor and meet annually to share experiences and promote research in knee arthroplasty techniques.

His lectures were classics, and he served frequently as the keynote speaker at national meetings. He was an annual fixture, for example, at Seth Greenwald's Current Concepts Meeting in Orlando, Larry Dorr's Master Techniques in Los Angeles, and, of course, the ISK meeting in New York City. He adopted Leo Whiteside's technique of video presentation in lieu of slides, delivering messages that were clear, precise, and, when appropriate, entertaining.

Both in public and in private, John Insall was a kind and good person; he was a gentleman and a role model for his colleagues and his friends. An avid reader, he could converse on virtually any topic. If he disagreed with you, he would not become argumentative, but his silence spoke volumes.

He loved golf and was a student of the game. If your swing was off, he could tell you why, but he never offered advice unless asked. As one might expect, his own swing was controlled and graceful, and his short game was played with surgical precision.

His academic demands made him a world traveler. He profited from these opportunities to educate himself about the local culture, frequenting museums and historical sites. His boundless energy took him on many a long walk to experience the environs of a new city and partake of the local cuisine.

In May 1999, the orthopedic community was shocked to learn that John had metastatic lung cancer. We were not surprised, however, at the strength and dignity that he showed over the next 18 months. Never complaining, he remained optimistic and as active as possible.

In his last year, John returned to the seaside in Connecticut with his beloved wife, Mary. There, when able, he walked the beach, read voraciously, and bonded with his young grandson, John. He still enjoyed a "proper meal" with a "proper wine" and offered wise counsel to his students to the end.

John N. Insall, considered by many to be the father of modern-day total knee replacement prostheses and techniques, died peacefully on December 30, 2000.

He is survived by his wife, Mary V.; his daughter, Amanda; his son, John H.; his grandson, John

E.; and countless friends, students, and grateful patients throughout the world.

Bernard JACOBS

1924–1992

Bernard Jacobs, an internationally known orthopedic surgeon and clinical professor of orthopedic surgery at Cornell University Medical College, died on April 19,1992, at the age of 68 years. He had practiced orthopedic surgery until he became disabled, in 1990.

Bernard Jacobs was born in London, where he received his early surgical training, graduating from the University College Hospital Medical School in 1948. After working with the National Health Service for 2 years, Dr. Jacobs became disenchanted and, in 1950, he decided to emigrate to the United States by way of Montreal. In Montreal, he was appointed a visiting fellow to Professor Wilder Penfield at the Royal Victoria Hospital. Later that year, he moved to New York, where he was a surgical resident for 3 years.

In 1953, Dr. Jacobs received a request that he enlist in the United States Army Reserve. During the Korean War, he was assigned to the United States Army Medical School in San Antonio, Texas. Although scheduled to be sent to Korea, he was instead, at the last minute, dispatched to Trieste, Italy, to join a contingent of United Nations peacekeeping forces that were attempting to mediate a conflict between the Italians and the Yugoslavians, who were seeking control of Trieste. There, Dr. Jacobs was assigned to care for orthopedic patients and was required to travel monthly to Belgrade, Yugoslavia, to treat members of the United States Military Mission. Also as part of his United Nations service, he was liaison to the British Hospital in Trieste.

When the conflict was over and Trieste had been settled, Dr. Jacobs was transferred to Livorno, Italy, where he was assigned by United States Ambassador Clare Boothe Luce to lead a convoy of trucks carrying medications, food, and blankets to flood victims in Salerno. After a brief stay in Livorno, he was transferred to a large United States Army Hospital in Frankfurt, Germany, where he served as acting chief of orthopedics for 18 months. It was in Frankfurt that he became a United States citizen.

After being discharged from the army in 1955, Dr. Jacobs became an orthopedic surgical resident at the Hospital for Special Surgery in New York City, completing his training in 1959. During this time, he served as a fellow for 1 year on the bone-tumor service at the Memorial Sloan-Kettering Cancer Center. While in residency training, he was fortunate to have, as one of his teachers, the renowned neurosurgeon Professor Thomas Hoen. In 1959, Dr. Hoen and Dr. Jacobs introduced a new operative technique, first described by Dr. Ralph Cloward: a combined arthrodesis through an anterior approach for the treatment of cervical disc disease.

In 1962, Dr. Jacobs was appointed chief of orthopedics at the Bronx Veterans Administration Hospital, an institution with a lengthy affiliation with the Hospital for Special Surgery. His other hospital appointments included chief of the foot disorder clinic at the Hospital for Special Surgery.

In 1973, Dr. Jacobs and colleagues founded the Cervical Spine Research Society. In addition, Dr. Jacobs was a member of the International Lumbar Spine Society, the Intradiscal Therapy Society, and the North American Spine Society. Also in 1973, he was appointed chairman of the Orthopedic Section of the New York Academy of Medicine and the New York State Medical Society. He served as president of the Society of Orthopedic Surgeons in 1977 and was elected chairman of the Board of Councillors of the American Academy of Orthopedic Surgeons in 1979. A fellow of the American Academy of Orthopedic Surgeons, American Orthopedic Association, American College of Surgeons, International Society of Orthopedics and Traumatology, and New York Rheumatism Association, Dr. Jacobs served as a

consultant to the United Nations for more than 20 years. He was elected to the Board of Governors of the American College of Surgeons in 1981.

In 1983, Dr. Jacobs was appointed chief of the spine service at the Hospital for Special Surgery. During that same year, the Food and Drug Administration approved the use of chymopapain for injection into ruptured lumbar discs. Working closely with fellow neuroradiologists, Dr. Jacobs was placed in charge of overseeing the safe use of chymopapain at the hospital.

In addition to his interest in spinal disorders, Dr. Jacobs was internationally known for investigation into the natural history and effects of steroids and alcoholism on bone disease. He was particularly interested in reforming the workers' compensation system as well as the medical legal liability complex to provide better health care, and his work in both areas was published widely.

As an attending orthopedic surgeon in New York City, his life centered around providing the best care to all of his patients. He often accepted the challenge and responsibility of treating patients who had been referred to him from all over the world for complex problems. His success can be measured by the respect, love, and devotion bestowed on him by his patients.

In addition to his wife, Ingrid, Dr. Jacobs is survived by a son, Mark, of Washington; a daughter, Karen Lauder, of New York; and a granddaughter, Rachel J. Lauder. A Bernard Jacobs Fund and Fellowship in Spinal Research has been established at the Hospital for Special Surgery.

Henry L. JAFFE

1896–1979

Henry L. Jaffe, MD, is considered by many to be the most distinguished bone pathologist of modern times. His legacy to orthopedists is more than a series of contributions to our understanding of bone pathology (with his coworkers, he described or reclassified no less than nine of the presently known disorders of bone); it is in fact the development of a system for evaluation and logical study of lesions of bone, which he first proposed years ago and which has pervaded and dominated investigative efforts in the field ever since.

Dr. Jaffe was born in New York City in 1896. He was fond of talking of his early childhood in the city and remained close to several of his boyhood chums throughout his life. He attended New York University and then New York University School of Medicine, receiving his doctorate in medicine in 1920. As was the custom at the time, he served two internships: one at Bellevue Hospital in surgery and another in general medicine at the Montefiore Hospital. Despite an early interest in internal medicine and neurology, he became attracted to the specialty of pathology, particularly at the Montefiore Hospital where he met and worked with Dr. David Marine, an eminent scientist of the time. In 1922, Dr. Jaffe was appointed assistant pathologist and bacteriologist at Montefiore Hospital, and with the same fierce intensity that subsequently characterized all his efforts, he launched a brilliant career in investigative and clinical pathology. His productivity

and extraordinary accomplishments led to early recognition in medical circles in the City of New York; and in 1925, at the age of 28, Dr. Jaffe was appointed pathologist and director of laboratories at the Hospital for Joint Diseases, a post that he held until his retirement in 1964. In his almost four decades in that position (and, in fact, in the 8 subsequent years during which he remained at the institution to complete his second book), Dr. Jaffe became almost legendary for his remarkable clinical acumen, his skill as an educator, and his consummate ability as a scientist.

During his active days he saw many consultations on tumors and other lesions of bone and soft tissues; studied the history, roentgenograms, and slides of each one carefully; and rendered an opinion based on logic and a remarkable intuitive sense. At the same time he collected and catalogued the lesions so that in his later years he might call on this enormous experience for his descriptive writings. He taught bone pathology at the Columbia College of Physicians and Surgeons, New York Medical College, and Albert Einstein College of Medicine, but mostly at the Hospital for Joint Diseases, where every individual who trained or even visited the institution fell under his sway. Although he was a well-organized lecturer who correctly believed in the necessity for reiteration and illustration, Dr. Jaffe was more comfortable and perhaps more effective in less formal teaching circumstances—sitting at the microscope with orthopedic or pathology residents or discussing cases at pathology conferences.

The great thrust of Dr. Jaffe's life, however, was investigation. In 1927 he wrote in a hospital report that "the purpose of the laboratory is to develop research of a fundamental nature, particularly in those fields related to our clinical material." Working with his associates, Dr. Aaron Bodansky, Dr. Arthur Ginzler, Dr. Sheldon Jacobson, Dr. John Blair, Dr. Louis Lichtenstein, Dr. Thomas Horowitz, and Dr. Golden Selin, Henry Jaffe over the years made major contributions in three spheres: the pathophysiology of the endocrine glands and their effect on bone; the development, structure, and pathological reactions of skeletal tissues; and the description of specific skeletal diseases. In all, these efforts resulted in more than 130 original publications and two major books: *Tumours and Tumorous Conditions of Bones and Joints*, published in 1958, and *Metabolic, Degenerative, and Inflammatory Diseases of Bones and Joints*, which was completed while Dr. Jaffe was in "retirement" in 1972. Both of these volumes, beautifully written and copiously illustrated, remain classic works in the field to this day.

Dr. Jaffe's earliest contributions centered on the endocrinopathies. In the decade between 1924 and 1933, he reported on experiments that established the morphological characteristics of bone changes in adrenal cortical hyperplasia, hyperparathyroidism, rickets, chronic renal disease, osteonecrosis, and osteomyelitis. His most important contribution in this phase was the recognition of parathyroid control of osteoclastic resorption. In the second phase of his investigative life, he and his coworkers (particularly Dr. Bodansky) evaluated chemical changes in the bone and serum in relation to disease, with special emphasis on alkaline phosphatase activity in disorders such as rickets, Paget's disease, and hyperparathyroidism. In later years, working principally with Dr. Louis Lichtenstein, by original description or redefinition Dr. Jaffe clearly established the nature of osteoblastoma (1932), osteoid-osteoma (1935), giant-cell tumor (1940), eosinophilic granuloma (1940), pigmented villonodular synovitis (1941), chondroblastoma (1942), nonossifying fibroma (1942), chondromyxoid fibroma (1948), and aneurysmal bone cyst (1952).

Dr. Jaffe's brilliance and extraordinary competence did not go unnoticed by his colleagues. In 1953, he became an honorary member of the Royal Society of Medicine, "in recognition of distinguished services to science," and of the British Orthopedic Association. In 1957, his Alma Mater, New York University, granted him a Distinguished Service Award. In 1960 he was made an honorary member of the American Orthopedic Association, and in 1961 he received the Grand Scientific Award from the Phi Lambda Kappa medical fraternity. He was named to honorary fellowship by the American Academy of Orthopedic Surgeons in 1969 and was also honored by the Mexican Orthopedic Society, the New Jersey Orthopedic Society, and the Quebec Society of Orthopedics and Traumatology. Dr. Jaffe was a Diplomate of the American Board of Pathology and a Fellow of the College of American Pathologists. He held memberships in the American Society of Experimental Pathology, the American Association of Pathologists and Bacteriologists, the Society of Experimental Biology and Medi-

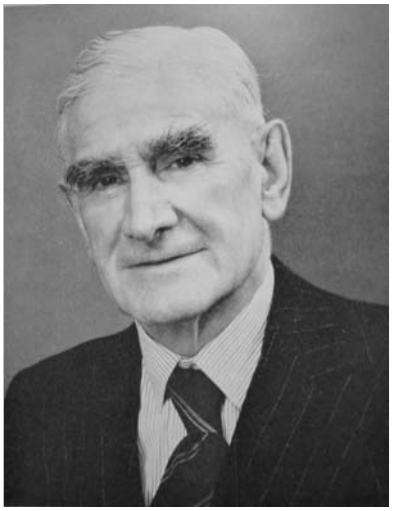
cine, the International Academy of Pathology, and numerous other national and international scientific organizations.

Those who knew him would agree with the wards of the late Samuel Kleinberg, MD, written in 1951 in the dedication of a volume of the *Bulletin* of the Hospital for Joint Diseases commemorating Dr. Jaffe's 25th anniversary at that institution. Dr. Kleinberg remarked, "He [Dr. Jaffe] is decidedly individualistic, but with opinions based on reasoning and experience. He is strong of will and freely gives his opinions, letting the 'chips' of information fly where they will. As a result he is a feared but respected antagonist. Truth and integrity govern his opinions and actions." Dr. Jaffe was a devoted and fiercely loyal friend to those of his colleagues with whom he collaborated and whom he respected. He was revered by his students and especially by the hundreds of house officers in the New York area who attended his conferences and learned pathology from the man who "wrote the book."

In view of his extraordinary devotion to his labors, it was a source of surprise to many that Dr. Jaffe had a life outside of the hospital, but it was indeed a rich one. In 1931 he married Clarisse Kross, a lovely and charming lady. They had two sons. The younger son, Henry L., Jr., tragically preceded his father in death by several years. The older, Arthur, was Professor of Mathematical Physics at Harvard University in Cambridge, Massachusetts.

Genial host and hostess, the Jaffes enjoyed entertaining but liked to spend time with their family and close relations even more. Dr. Jaffe loved to garden and approached this activity with the same passion as his scientific pursuits. He constructed a terrace on the grounds of one of their homes in Pelham and raised flowers, except for a brief period during World War II when he, like many of his neighbors, converted it to a victory garden. As a child, Dr. Jaffe had played the violin, and he passionately loved music. He had an extensive record collection and often attended concerts. The Jaffes vacationed in Vermont for many years, and Dr. Jaffe enjoyed outdoor activities with his wife and children.

The worlds of pathology and radiology, and especially orthopedics, are deeply in the debt of this extraordinary man, who in his lifetime brought order to the chaos of bone pathology, served as the final arbiter for countless puzzling cases, and brought enlightenment to a vast number of students and disciples. He died on January 12, 1979, in his 82nd year.



Arthur Rocyn JONES

1883–1972

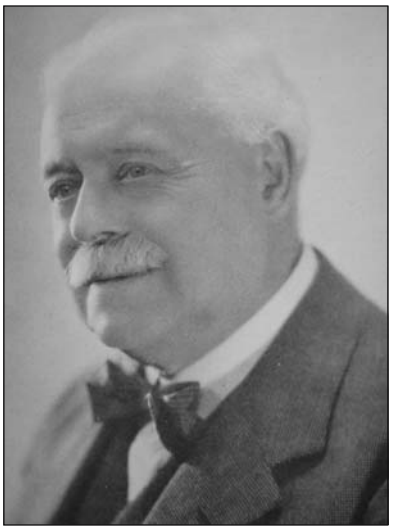
Arthur Rocyn Jones, consulting surgeon to the Royal National Orthopedic Hospital, died peacefully at his home on Stanmore Hill on February 13, 1972, at the age of 88 and the vigil of his devoted wife was over. The last 3 years, a period of increasing frailty, had brought several alarms about his health and once a spell of some weeks in hospital, but a strong Welsh constitution always came to the rescue, keeping him on his feet with a clear memory of the exciting events of his early career in orthopedics, almost to the very end. He was equally sustained by the deep but unobtrusive Christian belief that had governed the conduct of his life.

Over the years, Rocyn, as he was known affectionately, forged a strong personal link with the early days of orthopedic surgery in Great Britain. In 1918, sponsored by Elmslie, the thinker, and Bankart, the man of speedy action, he had been elected a founder member of the British Orthopedic Association, of which in due course he became the historian. To mark his 85th birthday, the number of *The Journal of Bone and Joint Surgery* for May 1968 was dedicated to him. The warm appreciation it contained, from the flowing

pen of Jackson Burrows, gave so many accurate and felicitous details of his life and influence.

A special link with the grass roots period of British orthopedics may perhaps be mentioned. For many years, Rocyn was a close friend of Muirhead Little, who gave him some priceless relics of his father W.J. Little, notably a case full of tenotomes and necropsy instruments, and an annotated copy of the thesis in Latin on the treatment of club foot presented to the University of Berlin in 1837 for his doctorate. These are now in the safe keeping of the Institute of Orthopedics, which he helped to establish in 1946.

On his death, Arthur Rocyn Jones left his wife, Margaret, and a daughter, Glayne.



Robert JONES

1857–1933

The kindly word, the encouraging smile, the twinkling eye with creases all going up in the right direction, and the whole magnetic personality of Robert Jones, seem as vivid today as they were 30 years ago when he was at the peak of his endeavor in creating and establishing the principles, science and art of orthopedic surgery. Perhaps his greatest contribution was to the art of surgery because he taught us all to be so infectious in our happiness that disabled and distressed patients also became happy. I never knew a more joyful man with his quips, pranks, jokes and beaming smile, so that when he went to Baschurch in earlier days, and to Oswestry in later days, the children almost fell out of bed and certainly out of their spinal frames in order to laugh with him. So, too, at Roehampton in the years of the First World War, his enthusiastic spirit of happiness made wounded soldiers believe that life could still be good.

Robert Jones was born in 1857 at Rhyl, a small town on the North Wales coast; and he died in 1933 at a little village in the Welsh county of Montgomeryshire. All his apprenticeship was served with his uncle Hugh Owen Thomas, the first to be medically qualified of many generations of unqualified bone-setters who had practiced in the hills of Wales and the lowlands of Anglesey, an island off the coast of Wales. There can be no doubt that Robert Jones was a Welshman. But there was no "Welsh Nationalist" about him. Liverpool was the first center of his activities; then it was London; then Great Britain; then the United States; and then the whole world. It is not a far cry to see that whether in surgery or in any other activity, great men do not remain parochial, or local, or national, but rather international and worldwide in their endeavors. The humble origin of Robert Jones in this small Welsh town led ultimately to a great British–American alliance in the world of surgery, and then to his establishment of the International Society of Orthopedics and Traumatology, of which he was the first president, this body of surgeons expressing almost inarticulate admiration by creating for him the unprecedented title of "Permanent President." Interlocal in the beginning, he was international in the end.

Robert Jones qualified in medicine in 1878, and gained the Fellowship of the Royal College of Surgeons of Edinburgh in 1889. He was soon appointed general surgeon to the Liverpool Stanley Hospital and, while still a young man of 30 years, general surgeon to the Royal Southern Hospital of Liverpool. This broad surgical experience stood him in good stead in later years, when his abilities were applied to that part of general surgery concerned with disorders of the limbs and spine—orthopedic surgery. He was of course strongly influenced by his uncle Hugh Owen Thomas, to whom he was apprenticed at 11 Nelson Street—the house that became a Mecca for surgeons from all over the world. We have said that Hugh Owen Thomas was descended from a long line of Welsh bone-setters; but even his father Evan Thomas, unqualified as he may have been, treated thousands of patients not only from the industrial north of England but from

every corner of the globe. Robert Jones could hardly have escaped this traditional influence, or the powerful personality of his uncompromising uncle, who battled and fought continuously in favor of safe and conservative treatment as opposed to unsafe, sometimes wild and often dangerous operations.

It was at 11 Nelson Street in Liverpool that Hugh Owen Thomas darted up and down the corridor, into the cubicles on each side, whipping out a wrench concealed beneath his coat-tails to correct a recently malunited Colles' or Pott's fracture before the patient had time to breathe or wonder what it was all about; and here it was that Robert Jones learned not to waste time, and to know the great possibilities of conservative treatment. This famous house, having been visited by surgeons from throughout the world, who, like the Mayo brothers, intended to stay for a day but found themselves magnetized for a week, was destroyed by a time-action bomb in the Second World War. Fortunately, the stone above the doorway chiselled "H.O.T. Surgery, 1856" was recovered from the debris and is preserved in the Hugh Owen Thomas and Robert Jones Library in Liverpool. I, for my sins, having paid some sort of pilgrimage several days after the raid, stole some of the broken tiles from that famous corridor—and I still treasure those fragments.

With this background Robert Jones was versed in the principles of manipulative and conservative treatment, often uncompromisingly antagonistic to the accepted teachings of that day; but to it he allied the newly learned art of aseptic surgery. Thus he became one of the founders of modern orthopedic surgery. Quite soon his operating lists at the Southern Hospital, varying in length from 20 to 30 operations, starting at 2 o'clock in the afternoon, consisted almost entirely of osteotomies, osteoclases, bone excisions, arthrodeses, elongation of tendons and so on, with a few cases of cleft palate, nephropexy or salpingitis put at the end. These were left more and more to Theodore Armour, who probably did not mind starting at seven or 8 o'clock at night because he never knew one hour from the other, or one day from the next; he often started his ward rounds at midnight and once sent me to the country to put on a plaster spica, only to be met by an irate doctor, who said: "but it was to be 4 o'clock *yesterday*, not today."

Robert Jones retired from his Liverpool hospital practice before the age of 50 and pursued a vigorous private practice in Liverpool and London, though always maintaining his free Sunday clinics at Nelson Street. But before he did so, his alliance with Agnes Hunt had been created and firmly established. She had first brought children from her derelict country home at Baschurch in Shropshire, where stables had been converted into open-air wards, in what she described to the railway officials as "perambulators" because such transport cost half as much on the railway as stretchers or ambulances. So every Saturday she would arrive in Liverpool with two or three perambulator-loads of crippled children for Robert Jones to operate upon, and take back a similar number of loads to Baschurch. From this very simple, undignified, perhaps illicit, sometimes naughty, but always happy and joyful activity, there developed the great hospital at Gobowen in Shropshire, now the Robert Jones and Agnes Hunt Orthopedic Hospital, which with its after-care clinics serves ten or more counties, most of the central part of England and Wales, and receives patients not only from all parts of this country but from all over the world. It was the first hospital ever to organize so complete a service—preventive, curative and securative—first seeking out miserable children who had formerly been locked away in hamlets because the crippling had been thought to be a visitation from God, bringing them to the hospital for treatment, following up the after-care in their homes, and then training the disabled in trades, occupations and recreations by which to make them self-supporting men and women.

Here again, at what was then the Shropshire Orthopedic Hospital, but is now the Robert Jones and Agnes Hunt Orthopedic Hospital, he would undertake incredibly long lists of operations, never less than 20 and often as many as 30. We always started before 7.30 in the morning and went on until about 4 o'clock in the afternoon. These endeavors have occasionally been described since then, rather disparagingly, as "marathons of surgical exploit"; but this belittles and quite fails to understand the skill of organization, and the skill of operative technique, that made it possible.

With two theaters, two anesthetists and two most expert plaster teams, a cartilage would be removed within 10 minutes, including the whole of the posterior horn and the peripheral fragment, in one theater; and while the pressure crepe bandage over copious wool dressing was being applied, the bowed tibiae of a child were being corrected by manual osteoclasis in the next

theater; and while the straightened legs were being most expertly plastered, a boy's pes cavus was being tenotomized and wrenched with division not only of the tight plantar structures but also of the extensor tendons on the dorsum of the feet and the flexor tendons at the interphalangeal level—a technique that is being forgotten; and while those feet were having plaster-of-Paris applied to the tips of the toes to maintain correction of the clawed toes as well as of the clawed feet, a subtrochanteric osteotomy was being done to correct flexion–adduction deformity of the hip joint; and while the abduction frame with skin-traction tapes was fitted, an old tuberculous spine was being fused with an Albee graft and the patient placed in the already prepared plaster bed, all within 20 or 30 minutes; with immediately thereafter excision and fusion of an arthritic knee joint in about 15 minutes; and while the Thomas' splint was applied, a tenotomy of the adductors in a child with congenital spastic paraplegia, and special instruction as to the exercises to be practiced; and then reduction of bilateral congenital dislocation of the hips and the application of plaster; always followed at about 4 o'clock by delayed cold luncheon shared by *every* member of the staff with Robert Jones and the chiefs, the house surgeons, theater sisters, nurses and orderlies—most of them seriously crippled themselves. Every one of us felt that since the very early hours of the morning, we had done a good job of work; and Robert beamed upon us all.

If you are as breathless in reading that sentence as I am in writing it, you are not half as breathless as we all were in sharing the magnificent organization and skilled surgery of Robert Jones. Of course, in his age, there were vast numbers of gravely deformed and seriously crippled children for whom the best operative treatment was a relatively simple procedure, occupying only a few minutes provided that the after-treatment was watched carefully. Since then, these gross deformities have not arisen because of the sustained and continued clinic system of prevention as well as after-care (a truth that must be declared loudly when some socialist ministers of health belabor us on the need for preventive as opposed to curative medicine). This skilled operative technique, superb organization, and happy spirit of recovery was applied so generally to all the hospitals of this country that it would be invidious to try to enumerate them. Indeed there was no orthopedic center or great teaching hospital that Jones did not influence.

But it is difficult to know whether his contribution was greater to the relief of crippling in children in days of peace, or to the relief of disability in soldiers in days of war. Certainly the most dramatic was the vast organization he developed during the First World War, when the loyal endeavors of American and British surgeons were fused so happily. It may be true that Lieutenant-Colonel, soon Major-General, Robert Jones was quite likely to walk down Bond Street with his general's cap worn inadvertently back to front; he was a terrible soldier; but he was a wonderful friend.

We have thought of Robert Jones as a student and apprentice, as a general surgeon and young orthopedic surgeon, as a gentle and kind protagonist of his uncle's staunch principles, as a pioneer in the development of preventive measures to avoid crippling, as a very great pioneer of rehabilitation after crippling, as an organizer of orthopedic services, for civilians and for members of the armed services, as one who created the British Orthopedic Association, the International Society of Orthopedic Surgeons and the fusion of enthusiasm and friendship between the surgeons of British and American nations. What more can we say? We can say much more, and this is what matters most. He was a mild, lovable, understanding and simple man—equally at ease with a timid child, a truculent dock worker, or a royal personage.

He loved his dogs—the Alsatians, St. Bernards and Irish wolfhounds; he enjoyed boxing, and how strenuously he boxed himself; he was fond of cricket; he loved children, who soon learned to trust him; he was incapable of meanness, sarcasm or unjust criticism. He expressed displeasure by unruffled and restrained feeling, which was felt rather than heard. He spoke ill of no man. He was kind, generous and encouraging to young surgeons but always with a cloak of anonymity. He was the very great friend of young surgeons, and few know how very great a friend he was to them.

May I quote one example of this? When I was very young, Robert Jones said that it would be wise for me to visit European orthopedic centers and see the work of surgeons in other countries, and my reply was that much as I would like to, I could not afford it. Nothing more was said, but some weeks later he called for me and said that in rewriting his book on orthopedic surgery he wanted a complete study of the literature on pes cavus and pointed out that this would mean traveling to London and spending a week or so there

in the libraries. Having done it and presented to him the review (which in fact he never wanted—he had got it already), he said "It must have cost you something to stay that week in London; I will not pay for your lodgings but I will pay for a tour of the orthopedic centers in Europe." This was typical of the disarming generosity of Robert Jones to young surgeons.

On June 28, 1957, there was a service in the Cathedral of Liverpool, on the centenary of the birthday of Robert Jones in 1857, near the foundation pillar in which are laid his ashes, the first ever to find a resting place here, above which is a stained glass window dedicated to *Service*. As long as the walls of that great Cathedral stand, there will shelter the token and memorial of a great servant of mankind who gave his gifts with generosity, with kindness and joy of heart. In the hearts and minds of those who came within the warm glow of his presence, and who learned humbly to love him, his spirit still lives.

Robert JUDET

1909–1980

Born in Paris in 1909, the son of an orthopedic surgeon, Henri Judet, Robert studied as a medical student under Ombredanne, Houdard, Mathieu and Wilmoth, qualifying at the age of 21. At first he worked in general surgery but soon, under the influence of his father and his elder brother, Jean, he came to work exclusively in orthopedic surgery. Appointed Chirurgien des Hôpitaux in 1947, he was nominated to the first orthopedic teaching post to be created in France in 1953. When he was made Chef de Service at the Hôpital Raymond Poincaré in Garches in 1956, the orthopedic service there was little more than a service for the chronic sick. Before long it was to become a service in orthopedics and traumatology with a worldwide reputation. Robert Judet was appointed Professor of Orthopedics and Traumatology in 1963. He was a member of many national and international orthopedic societies, a Corresponding Fellow of the British Orthopedic Association and a member of the American Orthopedic Association and the American Academy of Orthopedic Surgeons.

He made many major contributions to orthopedic surgery. His first thesis, at the age of 21, was on the subject of adult club foot. During his career he studied subjects as varied as the repair of pseudarthroses, pedicle bone grafts, quadriceps lengthening, the treatment of bone infection and the operative treatment of pelvic fractures. He is best known of all for his work in joint replacement. With his brother, Jean, he was the first to use an acrylic prosthesis to replace the femoral head in 1946 and presented the results of the first 400 cases at the meeting of the British Orthopedic Association in 1951. Undaunted by subsequent failure that resulted from the reaction to the wear of the acrylic material, he continued to work and experiment in this field, developing with his son Thierry a cementless total hip arthroplasty in 1971 and reporting the results of the first 828 cases to the British Orthopedic Association in 1975.

He was unique. Everything that he did was done with energy and enthusiasm. It is said that even at the age of 70 he could operate on two hips before breakfast. New approaches and fresh ideas flowed ceaselessly from him: indeed it was said that any assistant who went away on holiday found himself out of date with his chief's current thoughts by the time he returned. He was a remarkable teacher. The yearly orthopedic courses that he instituted at Garches became famous throughout France and abroad. He was an impeccable operator. His knowledge, ability and manner inspired confidence in his patients.

He was fond of many sports—skiing, hunting, sailing, golf. As a man, he was the epitome of Gallic qualities—charming, generous, entertaining, discerning and the perfect French host. His exploits in the Second World War and in the Resistance (he was arrested by the Gestapo but

fortunately was freed for lack of proof of his clandestine activities) earned him numerous decorations, including the Chevalier and Officier de la Légion d'Honneur.

Robert Judet died in December 1980.

Emanuel B. KAPLAN

1894–1980

Born on April 25, 1894, in Krementshoug in the Ukraine, Emanuel Kaplan completed his undergraduate studies at the University of Montepellier, France, and received his medical education in Paris and at Kharkov Imperial University between 1912 and 1916. After receiving his medical degree, he served as a physician with the Imperial Russian Army during the period of the Russian Revolution and the First World War. His experiences laid the foundation for his lifelong commitment to the alleviation of human suffering.

After the war, during the period when the great famine swept the Ukraine, Dr. Kaplan served as physician and interpreter for the American Relief Administration. His unusual linguistic skills—he spoke five languages fluently—and his medical talent brought his work to the attention of Herbert Hoover, who encouraged him to come to the United States. He immigrated in 1924 and established a private practice in New York in 1927.

He was among the first residents who were trained specifically in orthopedic surgery at the Hospital for Joint Diseases in New York City. Eventually his work was recognized, and he became attending orthopedic surgeon and ultimately chief of the Department of Hand Surgery at the hospital. He had been certified by the American Board of Orthopedic Surgery in 1936, and subsequently served as examiner of the board for a number of years. He was a fellow of the American Academy of Orthopedic Surgeons and was further honored by election to the American Orthopedic Association and the American Society for Surgery of the Hand.

Dr. Kaplan's scholarly pursuits, which resulted cumulatively in more than 100 major medical papers and four seminal books, were based on detailed human anatomical investigations, comparative anatomical dissections and studies, and his passion for language. His creative human anatomical pursuits were conducted at the College of Physicians and Surgeons, Columbia University, where he was clinical associate professor of anatomy until his mandatory retirement in 1963. His comparative anatomical studies were conducted at the New York Zoological Gardens (the Bronx Zoo) and at the American Museum of Natural History. As a result of these studies, he published many classic scientific papers, which even today remain a font for the contemporary investigator. His lifelong love of language was reflected in his writing, teaching, and conversation. In 1949 he translated Duchenne's *Physiology of Motion* from the French, making this pioneering study of muscle physiology available to an international readership for the first time and consequently stimulating the study of precise muscle function. In 1969 he returned to translation, publishing Weitbrecht's *Syndesmology* from the Latin. His dedication to anatomical studies permitted him to write his own *Functional and Surgical Anatomy of the Hand* in 1953 (which he updated in 1966 and which he was revising at the time of his death). This will be completed by his colleagues and students. His textbook *Surgical Approaches to the Neck, Cervical Spine, and Upper Extremity* was published in 1966.

Throughout his career Dr. Kaplan was dedicated to teaching. He organized one of the earliest hand-surgery teaching services and clinics in New York City at the Hospital for Joint Diseases. He taught anatomy at the Columbia University College of Physicians and Surgeons for more than 20 years, and subsequently served as clinical professor of orthopedic surgery at the New Jersey School of Medicine and Dentistry in Newark. In his teaching, he placed major emphasis on the

anatomy and physiology of the extremities. Many contemporary hand surgeons were his students, and many of his students are now chiefs of service at medical centers throughout the United States and in a number of other countries.

In addition, Dr. Kaplan was an active practitioner for more than 60 years. Literally hundreds of patients who were afflicted with conditions affecting the upper extremities were helped by his skill, his knowledge, and his patience. Perhaps because of his early experience in general medicine, he was an excellent diagnostician. Certainly because of his personality, he never said "no" to anyone, least of all to his patients.

His professional work was recognized internationally. He was elected to more than 25 prestigious surgical societies in the United States, Britain, France, and Italy. He was awarded medals of honor by a number of such societies in Europe. He was a member of the British Society for Surgery of the Hand, the Groupe d'Étude de la Main (GEM), and the Société Internationale de Chirurgie Orthopédique et de Traumatologie (SICOT). On the evening of April 11, 1977, students, colleagues, and friends gathered at the New York Academy of Medicine to honor him, and the scientific program that night was made up of papers by his former students, many of whom are leaders in orthopedics and hand surgery in the United States.

Despite these substantial achievements, his most marked personal characteristics were humility and modesty. In his long and productive lifetime, he contributed much to his chosen field and he proved much; he claimed very little. He was kind and gentle, devoting himself selflessly, without thought to his own needs or strength, to his work and to the alleviation of suffering wherever he found it. His sense of integrity and his empathy for the human condition made him endlessly responsive to every call on him, whether from colleague or patient. His massive contributions to the medical literature were written in his adopted language, English, and it flowed with style, force, elegance, and precision.

He died at home on September 20, 1980, at the age of 86.

Colonel William KELLER

1874–1959

Keller introduced his operation for bunions at the very beginning of his surgical career, while he was working in Manila during the Philippine insurrection. Though it is now one of the most commonly performed operations, he was not very interested in it, but went on to achieve fame in the field of general surgery, and in particular in the field of pulmonary surgery in its early days.

He was born in Connecticut in 1874, and graduated from Virginia in 1899. The following year he became a contract surgeon with the US Army, and was commissioned in 1902. He moved around hospitals in the USA and the Pacific until the First World War, when he was assigned to the American Expeditionary Forces as Director of Professional Services.

In 1919 he joined the Walter Reed Hospital to head the Department of Surgery. During this time he developed an unroofing technique for empyema, a type of inguinal hernia repair, a repair for recurrent shoulder dislocations (cruciate implication of the inferior capsule through an axillary approach), and the tunnel skin graft. This last was rather intriguing; when an ulcer or scar was to be grafted, he made a tunnel underneath it and laid the graft in it. The roof kept the graft in position and the roof either disappeared by itself or could be removed.

He was offered the post of Surgeon General, but refused because he wanted to continue clinical surgery. He remained at the Walter Reed until

his retirement in 1935. He was one of those fortunate people who only need 4 hours' sleep a night, and so have more time to work than most. On his retirement, he was, by special congressional legislation, made a consultant with pay and allowances for life, the first man to be so honored in US Army history. In 1953 an annual lecture was named after him.

Lipmann KESSEL

1914–1986

Professor Lipmann Kessel was born in South Africa, educated at the University of Witwatersrand, and came to this country to attend St. Mary's Hospital Medical School, from whence he graduated in 1937. After holding various junior resident posts, he joined the Royal Army Medical Corps at the onset of war. He later volunteered for parachute duties and, as surgeon in command of a parachute team, took part in the battle of Arnhem, where with exceptional skill and courage he was directly responsible for saving many lives. When he had done all he could for the wounded, he managed to escape his German captors and, with the help of the Dutch Resistance, eventually made his way home. These experiences were related in his book *Surgeon at Arms*. For his service he was appointed MBE (Military) and awarded the Military Cross.

After the war he returned to St. Mary's Hospital as a registrar, and was greatly influenced by the late V.H. Ellis. He then became clinical research assistant at the Institute of Orthopedics under Sir Herbert Seddon and was appointed consultant at Fulham and St. Mary Abbot Hospitals in 1952. Here he established an orthopedic unit, which became renowed. Lippy—as he was affectionately known to all—was especially concerned with teaching junior orthopedic surgeons, and many doctors, both from this country and abroad, have cause to be grateful to him for the meticulous training and superb surgical instruction they received. During this time he took a keen interest in the hitherto rather neglected casualty services of this country, and played an important part in the eventual establishment of recognized accident and emergency departments, together with adequate training programs for the staff. At the end of his time at Fulham and St. Mary Abbots Hospitals, he was involved in the planning and smooth amalgamation of these hospitals with the Charing Cross Hospitals to form the existing New Charing Cross Hospital.

At an age when most men would have begun to take life more easily, he accepted the post of director of clinical studies at the Institute of Orthopedics with his customary enthusiasm and dedication, and in 1974 he became professor of orthopedics of London University. He was able to foresee the problems that the postgraduate hospitals would face in the coming years, and set out to establish specialist departments at the Royal National Orthopedic Hospital that would help to maintain its identity and reputation. In particular, he was largely instrumental in the setting up of the spinal injuries unit and a specialist shoulder unit, his own particular lifelong interest. In this way he did his best to ensure that the future of the Royal National Orthopedic Hospital was protected.

His list of publications is long and ranges from articles about his early experiences with the parachute surgical team to many publications about the shoulder joint, which remained his greatest interest. He published several authoritative books on this subject and formed an international organization for the study of the shoulder joint and related diseases. He was executive member of the council of the British Orthopedic Association and served on the editorial board of *The Journal of Bone and Joint Surgery*. He had an international reputation and lectured all over the world.

This catalogue of a distinguished orthopedic career, however, gives only a glimpse of the merits of this man. He was a great teacher, particularly in the art of clinical diagnosis. To the

many postgraduate students he taught so well, he was always a friend as well as a tutor. To the patients, he brought not only sound clinical judgment, but also great kindness and compassion. He held strong and unswerving political views and was unafraid to express his feelings when he felt there was injustice. He was above all a humanitarian. His sufferings from a chronic vascular disorder started at an early age so that he understood well the meaning of pain, and this perhaps heightened his compassionate understanding of his patients' problems.

His interests outside the realms of orthopedics were many and varied. He had numerous friends in both the literary and theatrical worlds. Football remained a passion throughout his life and he was orthopedic adviser to the Chelsea Football Club for many years. He loved all card games and was a formidable opponent at both bridge and poker. Above all, he was a man of immense charm, wit and complete integrity, which made him respected and loved by innumerable friends in every walk of life. Professor Lipmann Kessel died in London on June 5, 1986, aged 72, leaving behind his wife, two sons and two daughters.

John Albert KEY

1890–1955

Dr. Key attended the Alabama Polytechnic Institute where he earned a Bachelor of Science degree in 1913, following which he entered Johns Hopkins University as a member of the class of 1917. Because of financial reverses, he had to discontinue his medical training for about a year. Such a misfortune as insufficient funds would have daunted a less hardy soul than Albert Key, but he capitalized on his financial setback. He taught anatomy at the University of Chicago and Creighton Medical School. While supporting himself, he studied assiduously to become even more proficient in anatomy. He was able to return to Johns Hopkins University and to join the class of 1918. The interlude spent in teaching anatomy may well have led him into the realm of orthopedic surgery, since that discipline is primarily related to anatomy, both gross and functional.

Early in 1917, because of the continuing war in Europe and the expectation that the United States would be forced to take up arms, Dr. John Finney organized a war hospital unit at Johns Hopkins and conceived the idea of allowing medical students to serve in the capacity of interns. Albert Key was one of the 32 students who volunteered, and, when the United States entered the war, he enlisted with the others as a private in the Army Medical Corps. The months that followed were filled with new experience and hard work for John Albert and for the others who made up the Johns Hopkins Hospital unit no.18. They landed in St. Nazaire, France, in June of 1917. The unit was moved to Savenay and then to Bazoilles-sur-Meuse. There it occupied a hospital with barracks built around a central building, which was called "the chateau." As "students," Albert and his group were assigned to work as interns when there were patients and they were relegated to the "clean-up squad" when there were none.

During the winter of 1917–1918 he worked on the unit's orthopedic ward. During the spring of 1918 the students received cablegrams from their university, informing them that they had been awarded their degrees as Doctors of Medicine. Soon after Albert was transferred, and in the months that followed, he worked with a rehabilitation battalion, which had been organized under the general planning of Dr. Joel E. Goldthwait.

During his service at Bazoilles, Dr. Key courted and married Eleanor Myer, an attractive nurse affiliated with the unit. Later there were two sons, John Albert, Jr., and Frank. Dr. Key was greatly admired for his rare devotion to his family, and when John Albert, Jr., was reported missing in action while serving as an air force pilot in the Pacific Theater in 1943, intimate friends were convinced that Dr. Key would never recover from the shock of the tragedy.

From 1919 to 1922 he received his graduate training at the Children's Hospital and Massachusetts General Hospital in Boston. A portion of this time was spent with Dr. James Stone, chief of the surgical service at the Children's Hospital, under whose excellent guidance Dr. Key received his general surgical training. During the latter part of this time, he was resident in orthopedic surgery at Massachusetts General Hospital on the service of Dr. Robert B. Osgood. Dr. Goldthwait was then at Devereaux House in Marblehead, Massachusetts, and with ambitious energy, Albert also followed courses there, meanwhile having garnered a Peabody scholarship. He utilized part of his time on that scholarship to undertake some hematological investigations. He had been attracted to hematology during his first year in medical school and was particularly interested in the histological study of blood and bone marrow. His endeavors in this field were successful, and he published two important papers: "Studies on Erythrocytes with Especial Reference to Reticulum, Polychromatophilia and Mitochondria" and "Lead Studies. IV. Blood Changes in Lead Poisoning in Rabbits with Especial Reference to the Stippled Cells." Men of authority in the field of hematology speak of these papers as excellent fundamental studies.

In 1921 he became instructor in applied physiology at Harvard University and, in the following year, he went to the University of Maryland as instructor in orthopedic surgery.

In 1924, it was the aim of the National Advisory Board of the Shriners' Hospitals for Crippled Children to have their institutions throughout the country represent the highest clinical standards. In addition, through laboratory and clinical research, they planned to make contributions to the investigation of the cause, prevention, and treatment of crippling conditions in childhood. Dr. Key was appointed director of research for all the Shriners' Hospitals, with headquarters in St. Louis.

From 1924 until the end of 1930, while chief surgeon at the St. Louis Unit, I was fortunate to have had the opportunity to observe Dr. Key's research, to become familiar with his ability as a teacher of undergraduate and postgraduate students, and to be stimulated by his keen interest in the clinical problems of crippled children. He contributed much to our service and took an active part as an operating surgeon, in ward rounds, and in the outpatient service. More than simply a colleague, Albert became my friend, and I venture to say no man ever had a truer one. In discussion, although he always spoke with frankness, vigor, and honesty, his never-failing geniality and good humor left no room for bitterness. Unfailingly his repartee was sparkling, but without a barb; his brilliant logic and even temper, his willingness to allow others to explore the great reaches of his intellect and tremendous mental capacity, gave him his rightful place as counsellor, guide, and mentor in matters orthopedic. He made the words "orthopedic surgery" and "progress" almost synonymous, and he ranks among those who laid the foundation for orthopedic surgery as a specialty. Dr. Key had begun fundamental research early in his career and never abandoned this work. He continued his work along these lines and always correlated his research work with the clinical approach.

In spite of his multitudinous duties at the Shriners' Hospital, his enormous ability for work enabled him to make outstanding contributions in experimental and clinical studies. During this period, "The Reformation of Synovial Membrane in the Knees of Rabbits After Synovectomy," "The Mechanisms Involved in the Removal of Colloidal and Particulate Carbon from Joint Cavities," and the "Cytology of the Synovial Fluid of Normal Joints" were among his outstanding works.

In 1928, he published some thought-provoking articles on arthritis, among which were "Experimental Arthritis. The Reactions of Joints to Mild Irritants" and "The Pathogenic Properties of Organisms Obtained from Joints in Chronic Arthritis." Experimentally, by creating defects in the articular cartilage in the joints of animals, he produced changes very similar to those seen in chronic hypertrophic arthritis. His results were published under the titles "Experimental Arthritis. The Changes in Joints Produced by Creating Defects in the Articular Cartilage" and "Traumatic Arthritis." He was not unmindful, however, of the clinical aspects of his chosen field and published "The Non-Tuberculous Hip in Early Life. II. Childhood," "The Non-Tuberculous Hip in Early Life. III. Adolescence," and "Some Diagnostic Problems in the Hip in Early Life." About this time Dr. Key wrote an article on brittle bones and blue sclera, which he termed "hereditary hypoplasia of the mesenchyme." This article contains the original description of the tissues, including skin, tendons, blood vessels, muscles, bones, and joints, in a case studied from the clinical, roentgenographic, and laboratory aspects.

His article "Epiphyseal Coxa Vara," which contains an exhaustive bibliography, was accepted as his thesis for membership in the American Orthopedic Association. He contributed two sections, one on "Idiopathic Bone Fragility (Osteopsathyrosis)" and the other "Fractures and Dislocations of the Extremities" as part of *Graham's Surgical Diagnosis*.

The integrity of his publications, as of all his work, is and will remain beyond question. Professionally and socially, Albert believed in and lived the truth. With Dr. Sherwood Moore, in 1928, he made an English translation of *Normal and Pathological Physiology of Bone*, from the original French by Leriche and Policard. Since he had but little opportunity, he spoke almost no French; upon reading his impeccable translation, Leriche inquired how he had been able to surmount the difficulties of a foreign language. With his flair for absolute truth, Albert replied, "Avec le dictionnaire."

He became associated with the Washington University School of Medicine in 1926 as associate in clinical orthopedics; in 1927, he was appointed assistant professor of clinical orthopedics and, in 1931, head of the division of orthopedic surgery and clinical professor. Although his hospital duties were long and arduous, often when they were finished, sometimes as late as five in the afternoon, his terrific drive compelled him to begin work on some project of his own. In such an endeavor, his critical and analytical mind had full scope. He was full of intellectual curiosity. Not only was he diligent and persistent in his investigation, he was original. His original ideas were never-ending, and he pursued not one, but many simultaneously. Once he stated that he had decided long before that one should not select a single research project and pursue it to its conclusion, but that it was better to keep working on other subjects simultaneously. Otherwise, in working to complete but one, a person might be slowed down and thus spend years to finish it.

His own drive was a great stimulus to those with whom he worked. He was constantly trying to advance his younger men and associates into positions at the school and toward membership in orthopedic societies. Several times he said that he hoped some day his younger men would be among the leaders in orthopedic surgery. He was totally unselfish, both with his time and his money. He made private loans to those who needed them, and it is known that he paid the salary of his first fellow in orthopedic surgery at Washington University. Furthermore, he became interested in the School of the Ozarks. This was a small Missouri school whose interests were directed mainly toward the education of underprivileged children. Each year Dr. Key endowed a likely scholar with a fellowship.

Immersed though he was in serious work, his love and zest for sports always managed to shine through. I shall never forget the fishing trips we took together in California, Idaho, Oregon, and British Columbia. There was never a dull moment, due to his unfailing good humor, his ready wit, and his joy in seeing others catch more and bigger fish than he did.

He was always the center of attraction in any gathering, whether in mixed company or professional groups. His ability to start a conversation and to control it was unique. He had as broad a knowledge of orthopedic surgery and of general medicine as anyone I know. He was extremely kind and modest to the point where, when asked to give a paper or make some other presentation, he willingly shared his honor with one of his colleagues; in fact, he often turned the whole matter to the other man's credit. He was never too busy for a conference on a problem—research, clinical, or otherwise. He had a prodigious memory, especially for the minutiae in orthopedic literature. His presence at any function, social or medical, was practically a guarantee of its success. He was an active member of Theta Nu Epsilon, Gamma Alpha, Alpha Omega Alpha fraternities, and was a Phi Beta Kappa.

In 1955 he became Professor Emeritus of Clinical Orthopedics at Washington University in St. Louis and head of the Division of Orthopedics, a position he held until his death.

Although his entire life was productive, he made especially valuable contributions to the progress of orthopedic surgery during the years 1931–1955. Among them was the excellent book *The Management of Fractures, Dislocations, and Sprains* by Key and Conwell. In *Cowdry's Special Cytology* he described synovial membranes, joints, and bursae. He found time to contribute to *The Practitioners Library of Medicine and Surgery*, *Military Surgical Manual of the National Research Council*, *Clinics*, *Instructional Course Lectures of The American Academy of Orthopedic Surgeons*, *Lewis' Practice of Surgery*, *A Textbook of Surgery by American Authors*, Bancroft and Murray's *Surgical Treatment of the Motor-Skeletal System*, Ghormlley's *Orthopedic*

Surgery, *Cirzrrgia de L'rgezzcia*, *Cole's Operative Technic* and *Clinical Orthopedics*. Among his many articles that have appeared in scientific journals, he will be remembered for his work on osteogenesis, bone atrophy and absorption, the use of the sulfa drugs in clean and infected wounds of both soft parts and bone, experimental and clinical observation of the effects of compression in arthrodesis, lesions of the intervertebral disc in the production of backache, and countless other topics. He was a member of the Committee for Investigation of the Kenny Treatment of Poliomyelitis appointed by the American Orthopedic Association, the American Academy of Orthopedic Surgeons, and the Section on Orthopedic Surgery of the American Medical Association. His constructive criticism of the Kenny method of treatment in infantile paralysis and his evaluation and report on this method of treatment remain a masterpiece.

It has been said that he never missed a meeting of the American Orthopedic Association, an association of which he was president during 1945 and 1946. At the meetings of the American Academy of Orthopedic Surgeons, his contributions to discussion were eagerly sought. His knowledge of orthopedic surgery was so profound that, in discussing papers, he could seize on the salient points and illuminate them as nobody else could. He was a member of the American Medical Association, American Surgical Association, American College of Surgeons, American Radium Society, Missouri Medical Association, Orthopedic Research Society (of which he was president at the time of his death), Clinical Orthopedic Society, Southern Medical Association, Southern Surgical Association, and the Robert Jones Club. The meeting of this Club in St. Louis in 1954 was organized by Dr. Key, and he had the fullest cooperation from his confreres; although he was most grateful, he suffered from "an embarrassment of riches"—everyone wanted to speak on his program. Needless to say, the meeting was a great success. Adding to that success, he invited all the members of the Club for dinner at his home in St. Louis, an evening long to be remembered. Some of us were fortunate enough to spend a weekend with him at the "Keyhole," his country place in the Ozarks.

Dr. Key presided at the first Orthopedic Section of the Forum on Fundamental Surgical Problems, of the American College of Surgeons in 1951. He organized this section of the forum and all succeeding meetings of this section until his death. These meetings were held at the time of those of the Congress of the American College of Surgeons.

His presidential address before the American Orthopedic Association, "Education and Certification of Orthopedic Surgeons," bears the imprint of his clear and lucid mind. This article contains what I would consider fair and just criticism of the National Board of Orthopedic Surgery. Dr. Key did not arrive at his conclusions without long and considered judgment. He voiced his objection to the regimentation of orthopedic surgeons and to a self-perpetuating board, which existed at that time. In his analysis of the group comprising the American Orthopedic Association, he found that their qualifications for this specialty varied and that their success had been obtained by a variety of routes. He objected to a uniform, prescribed method of training and, as he stated in the final paragraph of his address as delivered to the Association,

> . . . I suggest that our Board alter radically their policy of demanding that a candidate follow a rigidly outlined course of orthopedic training and that they recognize the incontrovertible fact that satisfactory orthopedic surgeons have been and can be developed in many different ways. Their standards of excellence should not be lowered and they can demand more time devoted to practice, but they should not close the door of our specialty in the face of men who are well qualified, but whose education has not been along the lines which they have laid down. They are not omniscient but with the best of intentions they are becoming omnipotent and this is not to the best interests of orthopedic surgery of the future. Finally it is to be reiterated that the function of the Board is to establish minimum standards; for the practice of and not to dictate the future development of orthopedic surgery.

This presidential address should be read and re-read by all aspirants to the field of orthopedic surgery, as well as by those who have already arrived, for stripped of all unnecessary verbiage as it is, it contains the outline of basic training, educational requirements, and necessary qualifications for a true orthopedic surgeon.

Dr. John Albert Key died at his country home near Steelville in the Ozarks on August 6, 1955.

Frederick Clinton KIDNER

1879–1950

Dr. Frederick Clinton Kidner was born on April 13, 1879, at Ipswich, Massachusetts. He received his preliminary education in Boston and at St. Marks School. He was graduated from Harvard University, receiving his AB degree in 1900 and his degree of MD in 1904. Following his graduation from Harvard Medical School, he served as intern at the Massachusetts General Hospital in 1904–1905.

Dr. Kidner early manifested an interest in orthopedic surgery and after his internship pursued special courses in this branch of medicine in Boston. After the completion of his training, Dr. Kidner was invited to become a member of the staff of the Children's Hospital of Michigan at Detroit to develop an orthopedic service; this he did with conspicuous success. In the years following, Dr. Kidner, in addition to his active medical career in Detroit, played a large part in the development of a state-wide Crippled Children's Service in Michigan, one of the first in this country.

In April, 1917, Dr. Kidner married Marjory Mellish of Detroit. While on their honeymoon, he was called to active service in the army as a captain and was immediately sent to England with the first group of orthopedic surgeons assigned to help Sir Robert Jones in his work with British casualties. He was stationed at the Military Orthopedic Hospital at Shepherd's Bush until 1918, when he was promoted to the rank of major and made consultant in orthopedic surgery for the British Isles; this position he held until the end of the war.

Dr. Kidner contributed extensively to orthopedic literature throughout his active life. His publications covered a wide range of subjects and added greatly to orthopedic knowledge and techniques. Probably the outstanding characteristics of his writings were their conservatism and soundness; he was not one to be carried away by new ideas just because they were new, but was always ready to accept new proposals that had been thoroughly tested by time and experience.

Frederick Clinton Kidner was greatly honored in his time. He was a member of the American Orthopedic Association, serving as its president in 1937–1938, and a member of the Clinical Orthopedic Society. He was a fellow of the American Academy of Orthopedic Surgeons and the American College of Surgeons. He was associate professor of orthopedic surgery, emeritus, Wayne University School of Medicine; surgeon-in-chief, emeritus, of Orthopedics at the Children's Hospital of Michigan; retired chief surgeon of the Department of Orthopedics at Harper Hospital; visiting orthopedic surgeon, Pontiac General Hospital and Wyandotte General Hospital; consultant in orthopedic surgery at the Woman's and Receiving Hospitals, Detroit.

Above and beyond these tangible evidences of respect and appreciation was the esteem of his colleagues and those who were privileged to be his friends and the love that came to him from those, especially the crippled children of his state, who through his skill and devotion were restored to health and usefulness. Dr. Frederick Clinton Kidner died in Detroit on October 20, 1950.

Robert KIENBÖCK

1871–1953

Robert Kienböck was born in Vienna and was educated at the University of Vienna, qualifying in medicine in 1895. X-rays, discovered by Roentgen that same year, had immediate and dramatic applications in medicine. After a brief postgraduate period in Paris and London, Kienböck returned to Vienna and specialized in this new field. He founded a private x-ray institute in 1899 and began contributing papers on both the diagnostic and therapeutic applications of x-ray. He began lecturing on x-rays at the medical school in 1903 and became professor of radiology in 1917. He had a special interest in the radiologic features of bone diseases. He was one of the few pioneers in radiology whose life was not shortened by the effects of exposure to radiation.

Donald E. KING

1903–1987

Donald E. King was born in Porterville, California, on March 13, 1903. He received his BA from Stanford University in 1923 and his MD in 1927. After his internship at Stanford University Hospitals, he completed his orthopedic training under the tutelage of Dr. Carl Badgley at the University of Michigan in Ann Arbor, where he became assistant professor. After returning to Stanford University Hospitals in San Francisco as chief of orthopedic surgery, he developed the orthopedic residency program and served with distinction as chief and professor until the medical school moved to Palo Alto in 1959. Don King continued his inspirational teaching of orthopedic residents as chief of orthopedic service at Pacific Presbyterian Medical Center until 1978. He was a clinical professor of orthopedic surgery at both Stanford University Medical School and the University of California School of Medicine until his death.

Dr. King's ability enthusiastically to distil the truth and crystallize the facts of a clinical problem inspired his students to become orthopedic surgeons. His residents worshiped him and remember with appreciation the outstanding examples he set, both in the operating room and in the care of patients. Dr. King's practice was considerable, and his approach to patients was friendly and direct. Many patients continued to seek his advice long after he ceased performing surgery. He served as president of both the Western Orthopedic Association and the American Board of Ortho-

pedic Surgery. He was a member of the American Orthopedic Association and the American Academy of Orthopedic Surgeons, as well as many other distinguished orthopedic organizations. Dr. King's many honors included the J.E. Wallace Sterling Distinguished Alumni Award from Stanford University School of Medicine and the Distinguished Service Award from the United States Army. Friends and former residents founded the Don King Orthopedic Library at Pacific Presbyterian Medical Center in 1980. In his memory, the Don King Educational Fund has been initiated for the education of orthopedic residents at that institution.

Donald E. King died in San Francisco on December 1, 1987, at the age of 84. He was survived by his wife Eva; sons, Donald and Douglas; and daughter, Sharon Wilcox.

Joseph Hiram KITE

1891–1986

Joseph Hiram Kite is generally associated with the Scottish Rite Hospital for Crippled Children in Decatur, Georgia. He was trained at Johns Hopkins Hospital and practiced in Atlanta. His greatest work, however, was done at the hospital in Decatur, an institution that primarily served the children of the Kentucky–Tennessee mountain country, where little medical care was available during and before the 1930s. At a time when congenital club foot was already being treated in infancy in the large cities, Kite received many neglected cases in older children for whom more aggressive therapy was required.

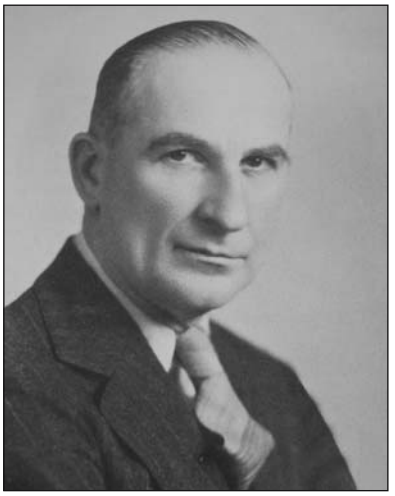
His early interest in these cases became known, and the paper "Principles Involved in the Treatment of Congenital Clubfoot," read before the American Academy of Orthopedic Surgeons on January 17, 1939, became a classic contribution to the treatment of club foot. Lorenz had "broken" the deformity over a pyramid, but the slower, gradual correction in plaster produced infinitely better results, if surgical intervention became necessary; much less bone was involved in the "corrected" foot than in straightening a deformed one. Following publication of Kite's article, his method became standard practice for advanced deformed cases throughout the orthopedic world.

Auguste Dejerine KLUMPKE

1859–1927

Auguste Dejerine-Klumpke was born in San Francisco in 1859 and educated in Switzerland along with her three sisters. She subsequently went to Paris for her medical education, which was obtained only by surmounting all of the barriers placed in the way of women who wished to pursue a medical career in those days. Dejerine-Klumpke was the first woman extern and intern in the Paris hospital system. Early in her career, she described a form of brachial plexus palsy affecting the lowest branches, which is still known as Klumpke's paralysis. She became

acquainted with Dr. Jules Dejerine, a young neurologist, while she was still a student and they married in her senior year. Together the Dejerines formed a team and shared in the neurologic investigations that resulted in her husband rising to the position of professor of neurology and chief of neurology at the Salpetriere Hospital in Paris. Dejerine-Klumpke was highly respected as a neurologist in her own right.



Fred KNOWLES

1888–1973

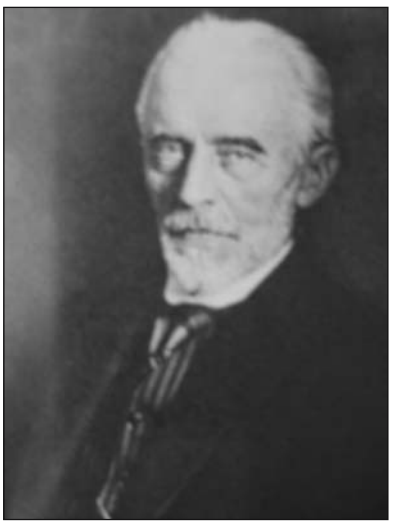
While Dr. Knowles practiced orthopedics privately in the small and academically isolated community of Fort Dodge, Iowa, for over 40 years, he remained a remarkable innovator in the mechanical aspects of orthopedic surgery.

We are all familiar with the Knowles pin, which he developed for the treatment of femoral-neck fractures. In addition, he invented a portable fracture table, which was quite useful in the days when itinerant orthopedic surgery was a commonly accepted practice. He was most well known by his patients for his method of treatment of disc disease with metal internal vertebral support. This procedure required minimum surgical exposure and in his hands, at least, was highly successful.

Dr. Knowles was born in Kingsley, Iowa, on May 19, 1888. He did his undergraduate work at Oberlin from 1910 to 1912. He spent 1 year at the Art Institute in Chicago in 1913, but decided to turn to medicine. He went to Iowa City, Iowa, where he graduated from the college of medicine in 1920. He took his internship at the Children's Hospital in Iowa City, where he worked with Dr. Steindler. Following this he went to Chicago and took a residency at St. Luke's Hospital.

Dr. Knowles' inventiveness extended into other fields. He designed a fascinating home on the banks of the Des Moines River in the outskirts of Fort Dodge, with special tennis courts and bowling greens. He was a highly successful organic gardener and grower of orchids. His interest in art continued during his medical career and he carried on with his painting and was involved with several local art groups. Dr. Knowles was active in the American Academy of Orthopedic Surgeons since its founding in 1933. He was a past president of the Iowa Orthopedic Society, and a member of the Mid-Central States Orthopedic Society, the International College of Surgeons, and national, state, and local medical societies.

Dr. Fred Knowles died on February 13, 1973. He was survived by his wife and two daughters. Dr. Knowles' productive life can serve as an excellent model for those of us who find our intellectual pursuits hurried in the turmoil of private orthopedic practice.



Theodor KÖCHER

1841–1917

Theodor Köcher was born in Bern, Switzerland, the son of a successful civil engineer. In his early

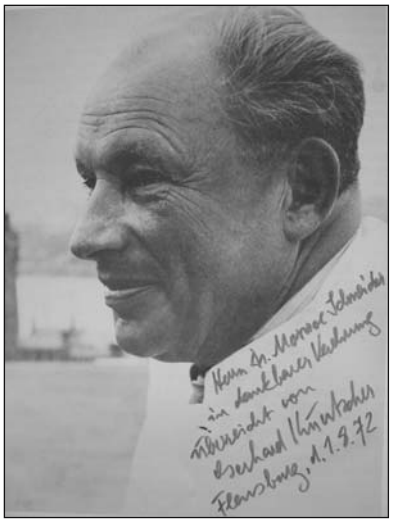
schooling he showed special talent for languages and art. He graduated with highest honors from the medical school at the University of Bern in 1865. He sought postgraduate training in surgery in Berlin in Langenbeck's clinic, but this was impossible because of his Swiss nationality. After prolonged visits to Berlin, London, Paris, and Vienna, he returned to Bern where he obtained a position in the surgical clinic.

The medical school in Bern was relatively new, having been founded in 1835. The first professor of surgery, Hermann Demme, was a product of the German educational system, as was the second professor, Albert Lucke, a student of Langenbeck. When Lucke accepted a more prestigious position in Strassburg in 1871, Köcher applied for the position in Bern. The largely German faculty of the medical school recommended Franz Konig, another student of Langenbeck, who later became the professor of surgery at the Charite in Berlin. The junior faculty and students rallied behind the cause of the ethnic Swiss candidate, as did the local Bern physicians. After a careful investigation of his qualifications, the Board of Regents of the University chose Köcher. He served as professor of surgery for 45 years and built the reputation of the Department of Surgery and the Medical School in Bern to a very high level.

Köcher's interests in surgery were broad and included important work on fractures and dislocations, ballistics, abdominal surgery, and neurosurgery. It was in the field of thyroid surgery, however, that he made his greatest contribution, and for which he was awarded the Nobel Prize in medicine in 1909; he was the first surgeon to be so honored.

Köcher had a significant role as a teacher of medical students, house officers, and practitioners. His most famous student was Harvey Cushing, who worked in Köcher's laboratory for 5 months in 1900–1901. In addition to his numerous papers, Köcher's *Text-Book of Operative Surgery* was also influential, going through numerous editions and translations. Köcher was the first to emphasize the importance of designing an operative approach that utilized the interspace between groups of muscles innervated by different major nerves.

His description of a posterolateral approach to the hip joint was designed primarily for resection of the hip for tuberculous disease. A modification of previous incisions described by others, Köcher's incision too has been modified by succeeding surgeons and is used now primarily for the repair of fractures of the hip and acetabulum and for total joint replacement.



Gerhard KÜNTSCHER

1900–1972

Many American orthopedic surgeons had the pleasure of meeting Professor Küntscher for the first time in 1957 when he came to Chicago to speak at the American Academy of Orthopedic Surgeons meeting. His vitality and youthful appearance made it difficult to believe that he was the same Küntscher who had introduced the cloverleaf nail for medullary nailing of fractures of the femoral shaft during the 1930s.

Although his name in the medical community had become synonymous with medullary nailing, Küntscher worked steadily at improving the technique of the operation. In Chicago, he demonstrated his method of performing closed nailing of fractures of all the long bones, using flexible cannulated reamers passed over a guide pin under fluoroscopic control. He reported the successful use of medullary nails of maximum size in hundreds of patients.

It is not generally appreciated that even in his earliest application of the medullary nail, Küntscher routinely attempted to insert the nail without exposing the fracture. The new armamentarium that he presented in Chicago simplified the procedure and facilitated its application over a wide range of orthopedic problems. His

achievements made him the most internationally renowned German bone surgeon of the twentieth century.

The tribute that follows is an abridged translation of the obituary published in the Deutsche medizinische Wochenschrift of March 9, 1973. It was written by a surgeon who worked closely with Küntscher for many years.

Gerhard Küntscher was born December 6, 1900 in Zwickau, Saxons, the son of a factory director. He studied medicine and the natural sciences at the universities of Würtzberg, Hamburg, and Jena. He passed the state examination in Jena in 1925 with the highest marks and was awarded the degree of doctor of medicine, *summa cum laude*, in 1926.

After an assistantship in radiology, Küntscher joined the University Surgical Clinic at Kiel in 1930. He became qualified as a senior surgeon, and in 1942 he was elevated to the rank of professor.

During World War II, Küntscher served as a surgeon on the Eastern Front. In 1946, he took charge of the surgical division of Kreis Hospital, Schleswig-Hesterberg. From 1957 until his statutory retirement in 1965, he was medical director of Hafen Hospital in Hamburg. After establishing a center for nailing in Spain in 1966, he became a visiting physician at St. Franziskus Hospital, Flensburg, where he continued to work until his death.

Küntscher wrote over 260 scientific papers and several books, which were also published in translation. He was the recipient of numerous awards, including the Danis prize of the International Society of Surgeons, the gold medal of the University of Santa Maria, Brazil, and the Paracelsus medal and honorary citizen of El Paso, Texas. He was also an honorary member of 12 German and foreign scientific societies and a corresponding member of numerous specialty groups within Germany and abroad.

At the 64th meeting of the German Surgical Society in 1940, he attracted unusual attention with his report, "Medullary Nailing of Fractures," which has been regarded as an important milestone in the operative treatment of fractures. From that time, the name of Küntscher was associated with a specific surgical technique. The Küntscher nail must be included among the most ingenious inventions that German surgery brought forth in the last decades.

Küntscher's life work, with which I was associated for over 20 years, can only be imperfectly evaluated. The war and the post-war period produced unfavorable conditions that severely limited and hampered his creative activities. The Schleswig period was characterized by intensive scientific investigations, animal experiments, and technical improvements of the instrumentation for closed medullary nailing. He was able to perform animal research outside the university only through considerable personal sacrifice. He managed to obtain the apparatus he needed through his friendly relationship with the Pohl Company. During his stay in Schleswig, his operative technique was standardized so that the same instruments and operative methods could be applied for all the long bones. A decisive advance in the technique of closed medullary nailing was the development of the guided flexible reamer. This obviated the problem of impaction of the medullary nail and improved the efficiency of the fixation. Plaster casts were unnecessary and the extremity could quickly become functional and bear weight.

The callus problem, the healing of fractures, pseudarthrosis, the infected fracture, the malunited fracture—were all subjects with which he intensely concerned himself. His application of closed medullary nailing to the treatment of pseudarthrosis signified another trail-blazing accomplishment. Through a stab wound, widening of the medullary canal and the introduction of a thick medullary nail were performed and a pseudarthrosis healed usually without opening the fracture site. The development of the image intensifier fluoroscope with remote viewing on a television screen during the 1950s made closed nailing considerably easier.

In his Hamburg period, Küntscher made two more important contributions to bone surgery. He developed the distractor, which made it possible to do closed nailing of malaligned pseudarthroses and old fractures. The internal medullary osteotome was the final culmination of his work in the field of closed bone surgery. After many years of effort, Küntscher could now do a closed osteotomy with the medullary osteotome. This pioneering achievement gave a new impetus to closed surgery. During the Hamburg period Küntscher produced an abundance of scientific papers, including his book *Practice of Medullary Nailing*.

After his superannuation, Küntscher continued to work on new inventions and on modifications of his old ones.

Unfortunately, only in his very late years did Küntscher's accomplishments and work earn widespread recognition and respect. It disappointed him that his operative methods were regarded sceptically at first. Now he spoke at numerous conventions at home and abroad, drawing large audiences with his extemporaneous lectures, which were as entertaining as they were informative. The publication of a new book on fracture callus, *The Callus Problem*, drew favorable attention. Despite all this work, he never omitted his daily plunge in the sea in all kinds of weather.

Küntscher was a modest, kind, yet strong-willed man who lived a quiet, retiring life. He was an ingenious medical investigator, an exceptional surgeon, and an exemplary physician. He was also an outstanding draughtsman, engineer, and physicist. To his juniors he was a generous teacher and sympathetic chief, always available to his colleagues who sought his advice.

On December 17, 1972, Professor Gerhard Küntscher died suddenly at his home in Glücksburg, West Germany. Death overtook him at his desk, as he worked on the completion of the manuscript of the new edition of his book, *Practice of Medullary Nailing*.

Albin LAMBOTTE

1866–1955

The life of Albin Lambotte will be, one can hope, the subject of a book-length biography. It is a record to place him in the front rank of orthopedic surgeons of all time and also among the great personalities of medical history.

He was doctor, surgeon, pioneer in the surgical treatment of fractures and in osteosynthesis; inventor and designer of instruments and appliances, which are easily recognizable as the patterns for equipment that will be made ready for some distinguished surgeon today; master mechanic, who turned out in his own workshop the instruments he needed for his pioneer work in the operating room; musician and artist, who could relax by sketching or by playing Bach on one of the violins he had himself made; generous and beloved teacher; fighter, who persisted against long and strong professional opposition to win, finally, a host of world-spread honors and who died in comparative poverty at the age of 90 in Antwerp, on August 1, 1955.

Albin Lambotte was graduated from the University of Brussels in 1891 and went directly as an intern to the Stuyvenberg Hospital in Antwerp. His professional baptism came that same year when cholera ravaged the city. Volunteering, Lambotte performed enterostomies followed by intestinal washing. Two years later diphtheria decimated the city. There was no serum. By performing 72 tracheotomies, Lambotte saved 60 lives. He was placed in charge of the smallpox ward.

In 1894 Lambotte performed, successfully, his first gastrectomy. In 1900 he succeeded Dr. Léon Desguin as chief surgeon of the Stuyvenberg Hospital and performed his first laminectomies and craniotomies. He advocated, almost 100 years ago, in carefully selected cases of cerebral hemorrhage, prompt trephining and removal of the blood clot. Eighty years ago he insisted that the only justifiable method of treating osteoarticular tuberculosis was immediate and complete cleaning out of the focus of infection, even though it involved extensive bone resection. This was before the days of antibiotics. His colleagues shrugged their shoulders.

Although his reputation as a general surgeon had already spread beyond the borders of Belgium, it was in a professional atmosphere of indifference and even hostility that, in 1902, he began his work on osteosynthesis of the femur. He faced at once the absence of tools for his new trade. In the following years, his time was divided between operating room and his workshop, where he designed, forged, hammered and, on his lathe, turned his devices for fixation and the instruments for manipulating them. As he made them, he tried them. If they performed acceptably, he made a model and sent it to Paris, to Collin, who had an unbounded admiration for his work. Lambotte believed that tool making was excellent training for the techniques of orthopedic surgery. He impressed the value of this form of manual training on all his students. They learned to drill with precision, to saw a straight line, to tape a thread smoothly. His relationship to them was alternately that of professor to students and that of master workman to apprentices. His book, never translated, *Chirugie Operatoire des Fractures*, was published in Paris in 1913.

The many testimonials that have appeared since his death are all eloquent of Albin Lambotte's influence on his students and their affection for him. His interests covered many fields in addition to surgery and all were included in his teaching. He loved music, loved to make music. He was quite happy as one of a chamber music quartette. He became a violin maker, designed a new bridge, made violas, violins, and violin cellos. The Queen of Belgium, and the conservatories of Paris, Brussels and Antwerp are proud possessors of his handiwork. He read widely and catholically, from Plutarch to Perrault to Simenon. His interest in art made him first a frequenter of museums and then, typically, a sketcher of no mean talent and an accomplished wood carver.

In the interests of surgery, he traveled widely. On a long voyage to Buenos Aires, he became interested in astronomy, and, once back in his workshop, made a telescope. An ardent fly fisherman, he designed and made his own featherweight reel and his own split bamboo rod. All of these interests he offered to the men who studied under him.

He roused, the day before his death, to say to his wife: "the greatest crime a man commits against himself and humanity is to be inactive."

Constantine LAMBRINUDI

1890–1943

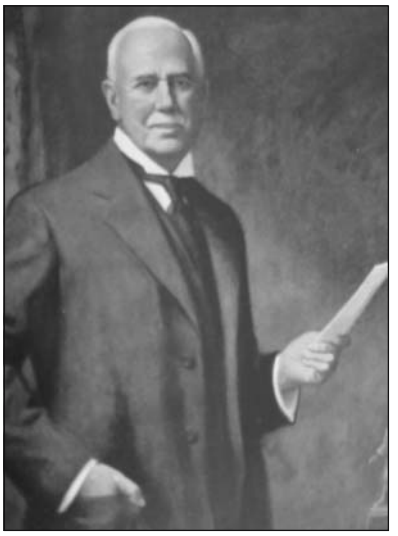
Constantine Lambrinudi enjoyed a unique position in British surgery because he, more than any of his contemporaries, advanced the mechanistic concept of orthopedic surgery. He was a man of striking personality and great charm, and his character was made all the more impressive by the absence of what many consider essential qualities in an orthopedic surgeon of the first rank. Lambrinudi cared little for administration, and those who worked with him did so because they enjoyed it rather than as members of a departmental machine. It may have been that his physical disability compelled him to devote all his attention to what he loved most, leaving the rest to take care of itself. In late years of life, his health and even his life were endangered by heart

disease; and when, to his own delight and that of his friends, he was allowed back to work, his activities were severely restricted for a long time, and all heavy physical effort had to be avoided. He knew that he would not live for many years, but in spite of this, perhaps because of it, he returned to his work with an infectious gaiety and unquenchable enthusiasm.

It may be that Lambrinudi's name is not widely known outside Britain. Here there was no ant-like industry to leave a dusty monument of publications; his life was too short and too chequered by reverses. In any case humdrum work was distasteful to him; he had hardly any use for collected data, for statistics, or for the well-worn methods of pathological investigation. Once when he was asked to look at a section he said, "It's no use expecting me to see anything there, I'm color blind." Perhaps he was, yet the truth was that he cared little about the material structure of the body, but everything about its mechanism, about form in relation to function. Lambrinudi spent endless time studying the workings of the foot. Out of this labor came his conception of a stabilizing operation for drop-foot, and the first rational procedure for the correction of clawing of the toes in pes cavus—so well thought out that he predicted and proved that in the milder cases correction of the action of the toes would reduce the deformity of the arch itself—and his description of the condition, which he called metatarsus elevatus. It was the same in his work on adolescent kyphosis and congenital dislocation of the hip. His recent advocacy of the teaching of orthopedic surgery in the first clinical years sprang from a conviction that no knowledge of the body, in health or disease, could be complete without some understanding of the machinery of the limbs, the spine, and the body as a whole; and he undoubtedly put his finger on a weak point in medical teaching.

In the last year of his life, Lambrinudi made plans to write a book on orthopedic surgery. It is lamentable that now it can never be written, for it might well have brought out his emphasis upon function and vital mechanics from beneath the shapeless mass of pathological data, carpenters' tricks, and shaky generalizations that we find in most textbooks on orthopedic surgery and that obscure the fact that whatever else it may be, the greater part of the body is, in a literal sense, a machine.

There is, however, no need to fear that Lambrinudi will be forgotten. His many friends will always remember the refreshing vigor of his conversation, his boyish delight in discovery—whether the work was his own or another's—and his outspoken but good-humored contempt for humbug and hypocrisy. Very occasionally the chain of his physical weakness produced signs of chafing; but there was no bitterness in him only regret, that he could not do all that his eager spirit desired. While yet a medical student he had served the country of his birth in the Balkan wars. Just before the Second World War he played with the idea of going there again, to set up a national orthopedic scheme. As he said, "I'd have a shot at being the Robert Jones of Greece." Lambrinudi succeeded Trethowan as orthopedic surgeon at Guy's; he was president of the Orthopedic Section of the Royal Society of Medicine; and he served two terms as a member of the Executive Committee of the British Orthopaedic Association. He held other offices, too. Yet these are only the professional trappings, and it is the man and his character that stand out in the remembrance of his colleagues who mourn his early death.



Sir William Arbuthnot LANE

1856–1943

Sir William Arbuthnot Lane was a surgeon of surpassing operative dexterity and by his pioneer work has exerted great influence on bone surgery.

He was born on July 4, 1856, at Fort George, Inverness, being the eldest child of Benjamin Lane, a brigade surgeon who saw service in the Indian Mutiny. The boy's grandfather was William Lane, MD, of Limavady, County Derry, Ireland. His mother, Caroline Arbuthnot Ewing, was the daughter of an inspector general of hospitals, whose ancestors also derived from County Derry.[1] At the age of 12 years, after much wandering abroad with his parents from one military station to another, William was sent to school at Stanley House, Bridge of Allan, a modest establishment but where he received an education for which he was always immensely grateful. His father feared his love of athletics but this did not prevent the boy from winning several school prizes and matriculating at Edinburgh University. On leaving school Lane decided to follow his forebears in the study of medicine, and his father, being posted to Woolwich, entered him as a student at Guy's Hospital in October 1872 because it was near London Bridge station, to which traveling from home was easy and inexpensive. He was only 16 years old and looked even younger; his bearded and frock-coated fellow students began by tolerating his youthful appearance with an air of condescension; but they were soon to learn of his exceptional ability. Among his teachers were Addison, Gull, Samuel Wilkes and Pavy, men who left a permanent influence on medicine.[9]

He qualified as a member of the Royal College of Surgeons in 1877 but was advised to take a London degree. This meant retracing his steps, beginning with matriculation; he did so with gratifying results, being awarded the gold medal in anatomy at the intermediate examination and the gold medal in medicine at the final examination in 1881. The following year he became a Fellow of the Royal College of Surgeons and in 1883 proceeded to the degree of Master of Surgery. His first intention was to become a physician, for he had no particular taste for surgery, but at the time the prospect of election to the staff was much more promising on the surgical than the medical side; thereupon he decided for surgery. In those days teaching hospitals recruited their staff from the dissecting room; to Lane it was a good omen when he was appointed a demonstrator of anatomy in 1882, having Hale White, elected the previous year, as a colleague and with whom he lived in St. Thomas' Street. In 1883 he was appointed assistant surgeon to the Hospital for Sick Children, Great Ormond Street, and in 1888, at the age of 32 years, he was elected assistant surgeon to Guy's Hospital.

During his 6 years' demonstrating in the dissecting room, Lane conducted researches upon the function of the skeleton and its adaptation to stress and strain. He made an intense study of changes in bones, cartilages and joints due to occupational posture, pressure and strain of manual laborers.[3] He stated: " To those who are unfamiliar with these changes, the variation from the normal is most striking and interesting, for the skeletons of many of the laborers differ from the usual type in a most remarkable manner. In other words, the form of the skeleton depends upon and varies with the mechanical relation of the individual to his surroundings." Among others he examined the skeletons of brewers' draymen, shoemakers, coal heavers and deal porters. He noted that in each of these occupations there was a peculiar bodily disposition during activity, with many tendencies to skeletal change; the habitual assumption of this attitude eventually induced structural change. In the case of the brewers' drayman who carried a heavy barrel on his right shoulder, the spine had become adapted to meet its burden. The upper thoracic vertebrae were deflected to the left side so there had been greater strain imposed on the intervertebral joints of the left than on those of the right side. This unequal stress was plainly manifest by well marked beak-like upping of some of the vertebrae on their left side. Lane considered these osseous changes to be an adaptive reaction designed to broaden the surfaces of the vertebrae to meet the unusual occupational stress. This was certainly an original interpretation of the pathological changes occurring in the vertebrae; the fact that only a few vertebrae were affected and those at the site of greatest strain, lent some support for this view—what Lane called "crystallisation of the lines of force." Most observers would probably say that the changes were those of a localized spondylitis of traumatic origin. That view, however, seems less illuminating than Lane's interpretation of the change as an adaptation to function.

In 1889 he began writing a series of papers on middle ear disease.[4] He described the antrum and its functions, at the same time pointing out how inadequate, in suppurative otitis media, was the drainage provided by the prevailing method of perforating the mastoid process with a small trephine. Lane was the first surgeon in this country to open and explore the mastoid antrum,

employing specially devised gouges and chisels for the purpose.

Soon after his appointment to the Hospital for Sick Children, he introduced the startling innovation of rib resection for empyema drainage.[2] Ambroise Paré had performed the same operation but it was forgotten. Lane, reporting the procedure, wrote:

> I found many cases of empyema which had been treated in the usual way by aspiration, followed if necessary by intercostal incision and drainage, both of which are not infrequently totally inadequate. To meet this difficulty, after determining the lower limit of the pus-containing cavity, I removed a sufficient length of a rib to permit of free access and perfect drainage. In the aperture so made, a tube of considerable calibre could be fastened so that its internal opening was flush with the pleura. Through such an opening it was readily possible to open and drain a pericardium filled with pus. By such active and efficient means these cases of empyema recovered rapidly and thoroughly.

In 1905 Lane published a book on cleft palate and hare lip, which went to three editions.[7] He advocated repair of hare lip soon after birth so that a cleft palate might be closed earlier than was customary, in order to enable the face and jaw to develop normally and the nasopharynx to function properly. He closed the palatal cleft with a flap of mucous membrane and periosteum. This provided a complete partition between nose and mouth, but the new soft palate was often too rigid to play an efficient part in speech. The operation has long since been superseded by the procedures of plastic surgery, whereby there is secured a mobile lip, by the use of skin grafts, and a long freely movable soft palate. Early closure of hare lip is still preferred.

In 1909 Lane excised a carcinoma of the cervical esophagus; the gap was repaired by skin flaps from the neck. This operation was something of a landmark in surgery. It was said to have inspired Wilfred Trotter in his planning of similar operations for excision of carcinomata of the pharynx.

In the later period of his hospital career, Lane devoted much attention to the consideration of alimentary toxemia. He maintained that the assumption of the erect attitude favored downward displacement of the viscera, to prevent which peritoneal bands were developed. These bands produced kinks of the bowel at various points and so led to chronic intestinal stasis, thereby facilitating infection of the upper alimentary tract. This toxemia was said to be responsible for a large number of ailments such as duodenal ulcer, pancreatitis, cholangitis, goiter, cardiac and renal degeneration; furthermore, patients with intestinal stasis readily developed tuberculosis and rheumatoid arthritis. Holding the view that the toxemia causing these diseases was due to the obstructive action of the colon, he embarked on extensive colectomy for their cure. Intestinal stasis and Lane's remedy for it aroused a good deal of controversy. A discussion at the Royal Society of Medicine, extending over six meetings, took place in 1913. Lane was quite definite in his affirmations as to the fact of intestinal stasis and its cure by colectomy. The evidence, however, was not sufficiently convincing; there were no follow-up reports submitted to prove the permanent value of so drastic a procedure. The operation never got a foothold; it gradually faded out.

Internal Splinting of Fractures

Lane's early researches on skeletal function led him on to study restoration of function in skeletal injury and disease. He declared that a fracture that had healed with its fragments displaced induced an alteration in the mode of pressure transmission to other bones, accompanied by potential articular changes. He was profoundly dissatisfied with the poor level of attainment reached in fracture treatment generally. He attributed much of this unsatisfactory state to the lack of intelligent interest in fractures, particularly in adhering to traditional splints that failed of their purpose. It was in 1883 that Lane began writing on fractures and, after the experience of a decade in their handling, he had reached the conclusion that for the intractable fracture open reduction with rigid fixation was necessary. This decision started an epoch, for the rigid internal splint has had an application in orthopedic surgery beyond the dream of its originator. It is well, therefore, to give the *ipisissima verba* of its introduction to the Clinical Society of London on April 13, 1894.[6]

On January 8, 1894, Lane operated upon a man aged 34 years with oblique fractures of tibia and fibula, inserting binding screws.

Lister, in 1877, with antiseptic precautions, wired a fractured patella, obtaining osseous union, a result rarely obtained by external splinting. Notwithstanding the success of the operation, he was submitted to some unfavorable criticism

for this "unjustifiable procedure." Lane persisted with the operative treatment of fractures; in an ununited fracture of the neck of the femur he obtained osseous union by passing two long screws from the greater trochanter, through the neck into the femoral head, thereby anticipating the later nailing operation.[5] It was some time after 1905 that he introduced his well-known steel plates and screws; with these he extended the range of fracture operations.[8] But his operating on simple fractures raised a storm of criticism and even abuse. In his hands the operation was performed under strict asepsis, but some other surgeons less meticulous in their technique failed to obtain union of the fracture because of sepsis. This led to a tendency to blame the operation rather than the manner in which it was performed.

No-touch Technique

Lane soon realized that if the operative treatment of fractures was to be safe, a rigorous aseptic technique was essential. The skin over a wide area was prepared several hours before the operation; on the table the part was painted with a solution of iodine. The operation area was surrounded by a generous supply of sterile mackintoshes clipped to the skin. All instruments after sterilizing were kept dry. The knife used for incising the skin was discarded and a fresh knife employed in the wound. Towels covering the skin were clipped over the edges of the wound because the exposed raw edge was considered a greater danger than the prepared skin. The theater sister held an instrument with forceps when handing it to the operator and she threaded needles with the aid of two pairs of forceps. To facilitate reduction and control of the fracture, Lane devised pairs of powerful bone forceps with long handles, which kept the hands well away from the wound. No part of an instrument that entered the wound was allowed to touch the surgeon's hand. All ligaturing and sewing were done with the aid of needle holder and forceps. This scrupulous no-touch technique was a byproduct of Lane's fracture work, but it has had a transforming effect on operative orthopedic surgery.

Lane retired from the active staff of Guy's in 1920 but continued to practice from his house at 21 Cavendish Square. He turned his attention to educating the public in healthy living, for he maintained that disease was due to defective diet and bad habits. In 1926 he founded the New Health Society to teach the public the simple laws of health; to aim at rendering fruit and vegetables more accessible to the housewife and at reasonable cost; to relieve overcrowding by promoting a return of the people to the land. The campaign involved press and platform propaganda, which brought him into conflict with established authority, although several members of the profession supported the movement. The society was largely responsible for founding a chair of dietetics at London University.

In 1908 Lane was elected to the council of the Royal College of Surgeons; he served for 8 years. He was invited to deliver the Murphy oration and when he arrived in America to do so he was given a tumultuous welcome. He was elected a Fellow of the American College of Surgeons. In 1913 Lane was made a baronet; some years later he became a Companion of the Bath and a Chevalier de la Légion d'Honneur. He died on January 16, 1943, in his 87th year.

In appearance he was tall and slim with a distinguished bearing; his face pale, strong and handsome with the head slightly inclined to the right. He spoke with a soft, quiet voice. He was twice married, first in 1884 to Charlotte, daughter of John Briscoe, with whom he celebrated his golden wedding, and in 1935 to Jane, daughter of N. Mutch. He had a son and three daughters, two of whom married members of the staff of Guy's Hospital and the other achieved distinction as an educationist.

Arbuthnot Lane was a man of great originality of ideas and a superb surgical craftsman. He took a leading part in the advance of surgery soon after the antiseptic system was established. He was one of the first to proceed from the antiseptic method of operating to that of asepsis. And he actually pioneered the perfection of aseptic surgery by introducing the no-touch technique. This last way of operating and his metallic internal splint have had a profound influence upon bone and joint surgery.

He fascinated his assistants by his extraordinary dexterity and imbued them with enthusiasm for surgery.

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He died on July 8, 2000 at the age of 84 years.

Anders LANGENSKIÖLD

1916–2000

Anders Langenskiöld, son of the famous orthopedic surgeon Fabian Langenskiöld, was born in Helsinki, Finland, in 1916, and graduated with a degree in medicine from the University of Helsinki in 1943. In 1941, Langenskiöld wrote his doctoral thesis on electrophysiology under the guidance of the Nobel Prize winner Ragnar Granit. Studies of histopathology in Switzerland in 1949 were of importance for his future work. Many years of cooperation with the famous bone pathologist Erwin Uehlinger, professor of pathology at the University of Zurich, were significant. His intention was to continue his career in physiology, but work in field hospitals during Finland's war against the Soviet Union from 1941 to 1944 made him a surgeon. He had his training in surgery and orthopedics at the Helsinki University Hospital and at the Orthopedic Hospital of the Invalid Foundation, but worked as a general surgeon until 1956, although his interest was in the study and treatment of diseases of the musculoskeletal system.

Anders Langenskiöld was the medical director and chief surgeon of the Orthopedic Hospital of the Invalid Foundation in Helsinki from 1956 to 1968. During this time, he made many important contributions to orthopedic science. His work on experimental scoliosis, reconstructive surgery in poliomyelitis, coxa plana and coxa vara infantum, bone transplantation, tibia vara, and many other conditions dealing with the age of growth and adolescence is well known all over the world.

In 1968, he became professor of orthopedics and traumatology at the University of Helsinki, and was the head of the Department of Orthopedics and Traumatology, Helsinki University Central Hospital, from 1969 to 1979, and simultaneously a consulting surgeon at the Orthopedic Hospital of the Invalid Foundation. This was a very busy time in his life because of teaching activities, research work, invited lectureships all over the world, and many national and international activities associated with orthopedic surgery and traumatology. He became an honorary member of the American Academy of Orthopedic Surgeons, of the Scandinavian Orthopedic Association, of the Scandinavian Society for Rehabilitation, and an Honorary Fellow of the British Orthopedic Association and of the Royal College of Surgeons of England.

The main subjects of his research have been pediatric orthopedics and normal and pathologic bone growth. Internationally, he is well known for his finding that partial closure of a growth plate can be eliminated by bone bridge resection and implantation of an interposition material, and for his studies on tibia vara.

In 1991, he closed his private practice. Langenskiöld has played an important role in the development of orthopedic surgery and traumatology in Finland, and today most orthopedic centers in this country are headed by his disciples. Thus, the knowledge and experience of the Langenskiöld school have spread all over the

country for the benefit of patients in need of orthopedic surgical treatment.

He died on July 8, 2000 at the age of 84 years.

Guy Whitman LEADBETTER

1893–1945

Born in Bangor, Maine, December 12, 1893, the son of Fred H. and Maude E. Leadbetter, Guy Leadbetter enjoyed the advantages of the wholesome and rugged life of New England. He entered Bowdoin College and was graduated with an AB degree in 1916. In his senior year he was captain of the track team, captain of the football team, established the intercollegiate record for the 16-pound hammer, which stood for many years, and was a candidate for the olympic team. He was president of his class and was elected to the Phi Beta Kappa Society. These achievements while at college show the great physical, mental, and personal qualifications of the man. He retained his interest in his Alma Mater and was a member of the Bowdoin Alumni Council and Chairman of Bowdoin Alumni Association, Chapter of Washington, DC, and in 1942 was given the honorary degree of Doctor of Science.

He received his MD degree from the Johns Hopkins University School of Medicine in 1920. In medical school he attained a high scholastic standing, engaged in many university and medical school activities, and was one of the most highly regarded students in his class. While a student, he chose to become an orthopedic surgeon and received his surgical training at the Lakeside Hospital, Cleveland, Ohio, and his orthopedic training at the Johns Hopkins Hospital and the Children's Hospital School. He entered private practice in Washington, DC in 1923, and became one of the outstanding surgeons of the community and soon earned a well-deserved national and international reputation. Many contributions were the result of his work, the most notable of which was his untiring interest in fractures of the neck of the femur. He was clinical professor of surgery at the George Washington Medical School, chief of the orthopedic service of the Emergency Hospital, and consultant to the Children's Hospital and the Casualty Hospital.

His sterling qualifications were recognized early and he was elected a member of the American Orthopedic Association in 1930 and of the American Academy of Orthopedic Surgeons in 1934. He also served as chairman of the bone and joint section of the Southern Medical Association.

Dr. Leadbetter was a man who never shirked a responsibility. He served on the Military Committee of the American Orthopedic Association and the American Academy of Orthopedic Surgeons for many years and gave unstintingly of his time to the Office of the Surgeon General. He was appointed orthopedic consultant to the Secretary of War, and secretary to the Orthopedic Committee of the National Research Council.

He was an accomplished pianist and had a fine and well-trained baritone voice. He was a linguist, and was proficient in German, Spanish, and French. Among his other hobbies were astronomy, geology, entomology, scientific photography, anthropology, and archaeology. He gave many lectures on these subjects and compiled an illustrated lecture on "Mayan Ruins at Yucatan." For several years he was the guest lecturer on the outdoor program of the National Capital Parks and spoke on a wide variety of subjects, such as "Death Valley Days," "Bird Life" and "With the Lumber Jacks in the Maine Woods." His interest and work in anthropology was so outstanding that several days after his demise a letter arrived, offering him a membership in the Anthropological Society at Albuquerque, New Mexico. He was a forceful speaker, and his spoken and written language were characteristic of his cultural background.

On November 11, 1945, Dr. Guy Whitman Leadbetter, President-Elect of the American Academy of Orthopedic Surgeons, died in the Emergency Hospital, Washington, DC of coro-

nary occlusion. He had been confined to the hospital only a few days and died, as he had lived, without fear, advising his friends that he had no apprehension about his health.

To his friends and associates he typified the "indestructible man"—a person endowed with the physical, mental, and temperamental qualities, who should have lived to be a centenarian and not have passed at the age of 51, when his many sterling qualities were being recognized and a future still lay before him. He accomplished much and America has lost one of its most brilliant orthopedic surgeons.

It was very fitting that such a man should have had an ideal family life. In September 1925 he married Alice Charlotte Johnson, and he was survived by her and their two children, Guy Whitman, Jr. and Patricia Alice.

Arthur Thornton LEGG

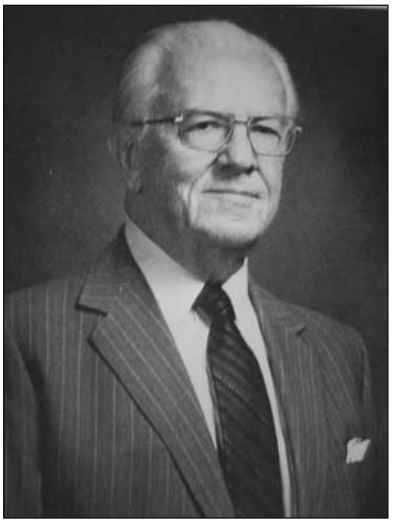
1874–1939

Dr. Legg attended Harvard College and received his degree from Harvard Medical School in 1900. He began the practice of orthopedic surgery in 1902, and was elected to membership of the American Orthopedic Association in 1908. Early in his career he became concerned with the problems of the crippled child, and the absorbing interest of his life was his work at the Children's Hospital in Boston, which he served for a period of 39 years, first as a house officer and then as a surgeon and a teacher. He was known the world over not only for his discovery of the hip condition known as Legg's disease, but also for his excellent and careful work in connection with infantile paralysis. He was the representative of the Harvard Infantile Paralysis Commission at the Children's Hospital, and his judgment in regard to operative procedure in infantile paralysis was respected by everyone.

Dr. Legg was assistant professor of orthopedic surgery at the Harvard Medical School and a consultant at many hospitals throughout New England. He had charge of the infantile paralysis cases at the Lakeville State Sanatorium, Middleboro, Massachusetts, and was consultant to the State Department of Public Health. At one time Dr. Legg was chairman of the section on orthopedic surgery of the American Medical Association and, in 1933, he was vice president of the American Orthopedic Association. He was a Fellow of the American Academy of Orthopedic Surgeons and of the American College of Surgeons and a member of the New England Pediatric Society.

A good teacher and an excellent surgeon, Dr. Legg was withal a kind, modest fellow, who never put himself forward, but when his opinion was asked he was always ready to give it, and his advice was generally very valuable. To be sure, he was conservative, but when an operative procedure or a method of treatment had been proved to be satisfactory, he was anxious to adopt it.

On July 8, 1939, Dr. Arthur T. Legg died at the Harvard Club, Boston, Massachusetts, in his 66th year.



Irwin S. LEINBACH

1907–1994

Irwin S. (Mike) Leinbach, an internationally known orthopedic surgeon, was an assistant clinical professor of orthopedic surgery in all three of Florida's medical schools.

Mike was born in Reading, Pennsylvania on February 8, 1907. He attended Ursinus College in Collegeville, Pennsylvania. In 1933, he received his medical degree from the University of Pennsylvania in Philadelphia. He performed his internship at Reading Hospital and his externship at the Hospital for Joint Diseases in New York City. In 1935, he was named an assistant in the Department of Anatomy at Temple University School of Medicine in Philadelphia: that same year, he was appointed chief resident orthopedic surgeon in the Philadelphia Orthopedic Hospital, under A. Bruce Gill. He returned to Reading in 1936. Until 1941, he held the position of assistant orthopedic surgeon at Reading Hospital, where his uncle, Howard L. Leinbach, was an established orthopedist.

From February through August 1942, Dr. Leinbach served as chief resident orthopedic surgeon at the American Hospital in Oxford, England, having responded to the call of Philip Wilson, Sr. for volunteers to staff the hospital. There, he developed a lifelong personal and professional friendship with James E. Batman of Toronto, Canada. To increase his orthopedic knowledge, he visited with T.P. McMurray, G.R. Girdlestone, W.R. Bristow, and Sir Reginald Watson-Jones, British orthopedic leaders of that time.

After returning from England, he was appointed as a Gibney Fellow in the Hospital for Special Surgery in New York City. He then served as chief of orthopedic surgery at the Drew Field Station Hospital in Tampa, Florida. He was also the orthopedic consultant to the Third Air Force, which had 25,000 personnel at Drew Field. This base housed several hundred German prisoners of war, many of whom cooked for the hospital patients and the medical staff. He showed compassion for the prisoners and conversed with them in fluent German.

In 1946, Dr. Leinbach opened a private practice in St. Petersburg, Florida, becoming the third orthopedic surgeon in that city. His long interest in medicolegal issues soon led him to the Stetson University School of Law in De Land, Florida, where he taught for 26 years and became the University's first professor in the Department of Medical Jurisprudence. He later was elected to membership in the American College of Legal Medicine, an honor accorded to very few who do not hold a law degree.

After World War II, Dr. Leinbach returned to Europe regularly to learn from the leading orthopedic authorities there. He firmly believed that they were developing the foundation from which orthopedic surgery would evolve. He studied intramedullary nailing with Gerhard Küntscher, the prevention and treatment of skeletal infections with Hans Willenegger in Liestal, Switzerland and the treatment of fractures with Lorenz Böhler in Vienna. He brought Dr. Küntscher to the 1967 annual meeting of the American Academy of Orthopedic Surgeons, as his personal guest. His international travels were not immune from civil strife. He was in Paris when a bomb went off in the Eiffel Tower. In 1956, while walking on a Polish street during a labor strike, he had to duck to avoid gunfire that was less than a block away. While doing volunteer work in 1963 in Saigon's Cho-Ray Hospital, he heard the gunfire of insurrection as the government was overthrown.

Dr. Leinbach recognized the importance of the work of Ellie and Albin Lambotte, the Belgian surgeons who established the principle of the tension band in the stabilization of fractures. Albin Lambotte gave him a violin of his own making. (Dr. Leinbach had begun playing the violin as a young boy.) He formed a close friendship with Maurice Müller, who was expanding on the principles of the Lambottes as he developed the AO Group.

He developed the Leinbach screw for fractures of the olecranon, modified the Gosset femoral head–neck prosthesis for the treatment of deficiencies of the femoral neck, and invented the "femur jack," an instrument that is very helpful in exposing the femoral neck during reaming of the medullary canal. He performed more than 3,000 primary and revision total hip arthroplasties.

He was a founding member of both the Hip Society in the United States and the International Hip Society. In 1966, he received the Governor's Award as Florida Physician of the Year, and he was selected as Citizen of the Year by the St. Petersburg City Council. In 1993, he received the Lifetime Achievement Award from the Joint Implant Surgery and Research Foundation, in commemoration of 60 years of surgery.

Dr. Leinbach decided to study medicine because it deals with human life, and he derived a lot of pleasure from life. In his office hung a small plaque with the inscription: "The fundamental principle of medicine is love." Thousands of patients benefited from his commitment and dedication.

He died on January 12, 1994, after a brief illness, in St. Petersburg, Florida. He was 86 years old. He had been working regularly in the outpatient clinic of the Bay Pines Veterans Administration Hospital until a few days before his death. Dr. Leinbach was survived by his wife, Alice; three daughters: Jenni Adams of Orlando, Judy Meserve of St. Petersburg, and Troy Kassing of Indianapolis; eight grandchildren; and five great-grandchildren. His only son, Tyler, died in a tragic cave-diving accident in 1960. Dr. Leinbach once said: "I have flown high enough to enjoy looking down on the clouds, and my great wife has been the wind beneath my wings."

Emile LETOURNEL

1927–1994

Professor Emile Letournel was the contemporary icon of pelvic and acetabular surgery in the world and a great friend, teacher, instructor and member of the AO family. The importance of this man and his monumental achievements in surgery of the pelvis and acetabulum is unrivaled in modern trauma surgery. Professor Letournel was recognized as the conclusive source of extensive experience and innovative techniques in the management of severe pelvic and acetabular trauma. His lifelong contributions to the understanding of the complex acetabular fractures and techniques required to treat these difficult injuries have defined the predominant principles of surgical excellence of fracture surgery.

Professor Letournel was the guest of honor at the English-speaking, basic and advanced courses in Davos, Switzerland in 1982. The presentation of his experience in the development of diagnosis and surgical management of acetabular fractures was extraordinary. It was given to a packed audience in the advanced course upper lecture room of the Kongress Halle in Davos. The participants were in awe of his surgical technique and ability to reduce difficult and extensive fractures. His presentation included numerous examples of anatomic reduction of complex associated acetabular fractures with excellent 10–20 year results. These radiographs demonstrated long, twisted reconstruction plates curving around areas of the pelvis (that the majority of the course participants had never visualized), creating a singular educa-

tional experience and a standing ovation. Emile continued to be an immutable participant in the advanced courses in Davos and participated in countless AO courses throughout the United States, Europe and Canada. His unique personality and energy were legendary, and he was always available to answer the most trivial question from any course participant. His passion and love of teaching extended worldwide as his results became universally acknowledged. Emile's personality and professional camaraderie were quintessential Letournel, and his dedication to teaching his techniques to conferences all over the world was the underlying virtue of this great man.

There are many instances in the history of orthopedic surgery in which an individual surgeon has made a significant contribution to a particular area of surgery that has stood the test of time. There are very few instances of a surgeon contributing to the specialty of orthopedic and trauma surgery in the complete and lifelong manner that was characteristic of Emile Letournel. His contributions began with description of the correct radiographic and anatomic diagnoses of acetabular fractures and progressed to a logical classification of these injuries into elementary and associated fracture types. This work continued with development of two major surgical exposures, reduction techniques, instruments and implant designs used in every operating theater in the world today. Though there have been refinements over time and contributions by other authors in the field, Letournel's original description, diagnosis, classification and surgical techniques have remained the ubiquitous standard of care of acetabular fractures for the past 25 years. Professor Letournel developed the base of the statistical data of both immediate and long-term results of operative management of acetabular fractures. His thesis published in 1961, "Fractures du Cotyle. Etude d'une serie de 75 cas," contained the initial description of the classification developed by Emile Letournel and Robert Judet and has achieved worldwide acceptance. This system has greatly facilitated surgical education in the understanding of the complex nature of acetabular fractures. He published three major textbooks on acetabular surgery, all with coauthor Robert Judet.

The first of these textbooks was in French, *Fractures du Cotyle* in 1974, the second was in English, *Fractures of the Acetabulum* in 1981, and the third, *Fractures of the Acetabulum* in 1993, with Robert Judet as a posthumous author. These latter two textbooks are the primary sources of information on surgery of the acetabulum in the English literature and are considered the "Bibles" of acetabular surgery. His work has resulted in a complete transformation of our understanding and treatment of fractures of the acetabulum.

Emile Letournel was born on the French island of St. Pierre et Miquelon, situated between New Foundland and Nova Scotia, on December 4, 1927. He never spoke English while growing up and after finishing secondary school in St. Pierre he obtained a scholarship to the French Institute in London. During this time period, the war in Europe was at a climax and for safety reasons the French Institute was moved to Hullswater Lake, Cumberland Scotland, near Edinburgh for the duration of the war. Emile left St. Pierre et Miquelon alone at the age of 16 on July 27, 1944 to cross the Atlantic and attend school in Scotland. At the time of his departure, he did not speak English and had never seen a train or a big city. He took a small boat from St. Pierre, "Le Cap Bleu," to Nova Scotia (24 hours) and then to Montreal by train (36 hours). He left Montreal on August 7, 1944 in one of the largest convoys of the war consisting of over 200 ships. On his ship, "The Jamaica Planter," no one spoke French and all his personal belongings were confiscated until the boat arrived in Scotland 28 days later. He studied for a year at the French Institute and received his Premier Bacalaureat. After the war he left England for France, where he studied at the Lycee Chaptal and received his Second Bacalaureat. He was admitted to the Faculty of Medicine of Paris from 1946 to 1960 and became a registrar in 1956.

As he developed an interest in orthopedic surgery, it became necessary for him to apply for a postgraduate position to continue his education. This process required the applicant to visit all professors who were offering training positions. Being from St. Pierre, Emile had no letters of support to compete adequately for an orthopedic position. A friend suggested he contact Professor Robert Judet and he did this out of desperation without any hope of obtaining a position. The meeting with Robert Judet was very brief. Professor Judet asked Emile for his letters of recommendation, of which he had none, but Emile indicated to him his sincere desire to train with Judet. Professor Judet asked him where he came from and Emile responded "St. Pierre et Miquelon." Judet looked in his agenda book and

offered Emile a 6-month opening the following year. The 6-month position lasted 12 months and Emile subsequently became Judet's assistant. Emile stayed with Robert Judet until his retirement in 1978. During this period, Emile advanced to associate professor and finally professor in 1970. He became head of the Department of Orthopedic Surgery at the Centré Medico Chirurgical de la Port de Choisy in southeast Paris. He remained at the Choisy hospital until his retirement from academic medicine in October 1993. In addition to his interest in acetabular and pelvic fractures, he performed over 6,000 total hip arthroplasties, developed implant designs and surgical techniques for management of calcaneal fractures and had extensive expertise in the surgical treatment of bone infection. His position at Choisy provided him an unlimited exposure to orthopedic disease and created the environment to further his investigation of acetabular fractures. The Choisy Medical Center is a nonprofit hospital, and Professor Letournel never charged a surgeon's fee to any patient throughout his entire career at Choisy for his services. He was admitted to the French Academie de Medicine et Chirurgie in 1981 and received the "Legion d'Honneur" from President Mitterrand of France in 1988. These honors were very special to Emile and were public recognition of his stature in French medicine and his accomplishments in the field of orthopedic trauma surgery. Following his death, the elected officials of St. Pierre et Miquelon passed a resolution naming a street on the island of his birth, "Emile Letournel."

Professor Letournel organized the first acetabular fracture educational course in Paris in 1984. His Paris courses were famous for the exposure participants received to his wealth of surgical knowledge and skill, his superb hands-on cadaveric dissection and above all his boundless enthusiasm and energy. The few fortunate surgeons who have been able to study with him at the "Letournel School of Acetabular Surgery" gained tremendous insight into his diagnostic and surgical acumen and the steadfastness with which he pursued every acetabular fracture to obtain "the perfect reduction." He was acknowledged as the most skillful acetabular fracture surgeon in the world and shortly before his death, he completed his 1,050th surgically treated acetabular fracture.

A symposium was published in August 1994 in *Clinical Orthopedics and Related Research*, dedicated to Professor Letournel and his significant contributions to orthopedic surgery. This tribute is bestowed on a physician who has made profound contributions to orthopedic surgery that have significantly altered the practice of the specialty. This honor is customarily reserved for posthumous recognition. Professor Letournel qualified uniquely for this honor as he was still alive when the commission was given to pay tribute to his life achievements in fracture surgery. Unfortunately, he died 2 weeks before this journal was published with his dedication issue.

Professor Letournel's personality was robust, rugged and energetic and he lived life with great eagerness and excitement. His mere presence in the operating theater created movement. As he would scrub for surgery, his intensity to take on his worthy fracture adversary would bubble forth as he would review in his mind the preoperative plan of surgical approach and internal fixation. His silhouette completely covered from head to foot in his French blue surgical gown was a rare sight to observe and revere. His distinctive vocal commentary (always in French) on a particularly stubborn fragment reduction or repeated failed surgical maneuver or the worthlessness of a particular instrument to perform its function would create absolute silence from the operating theater staff until a universal sigh of relief would resound throughout the room when he was finally satisfied with his reduction. Of special mention is Professor Letournel's most trusted medical assistant, Remy Ser, who was the master of the Judet fracture table. He could position any extremity on the fracture table into the desired position during the most critical time of a procedure and always underneath all the sterile surgical drapes. His routine response to any request from Professor Letournel was "Oui, Messier." He was the "Charge d'affaires" of Letournel's operating suite and was primarily responsible for patient problem solving before, during and after the surgical procedure. Remy Ser was an extremely dedicated professional and stayed with Emile for over 15 years until the day he died. He was an integral part of the Letournel team perpetuating the excellence that was the hallmark of Professor Letournel's surgery.

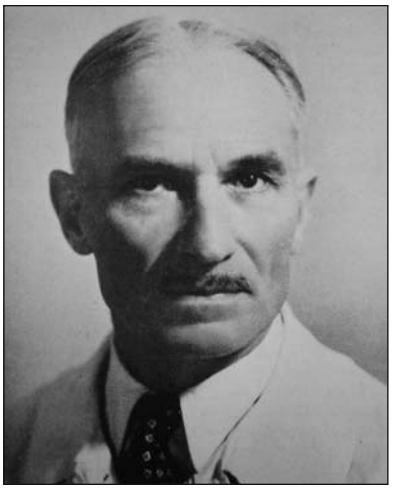
Professor Letournel never used a depth gauge. He would merely place his finger on the drill bit at the appropriate length of penetration, show the drill bit to his scrub nurse and promptly receive the correct length of screw. He would continually vocalize to himself all the possibilities and consequences of his technique while performing his surgical maneuvers. His genius had an enormous

ability to comprehend spacial relationships, leading him to understand quickly the complexities of a particular fracture and develop a plan of reduction based on his extensive experience. He was a masterful surgeon who knew well his abilities and limitations. His brilliance as a technician was evident in his surgical results. His personality was always warm and endearing.

He lived for the difficult trial, whether it was in the operating room or performing the ritualistic decapitation of a bottle of Dom Perignon with a saber, he was always the same wonderful man. His admirers encompassed the entire world of orthopedic and trauma surgery. His presentations were legendary and as uncommonly entertaining as his own form of English (an ingenious Letournel dialect), which created within the audience a profound awareness of the complexity of acetabular fractures and the importance of his pioneering original and lifelong contributions to acetabular fracture surgery.

This remarkable individual was not enormous in physical stature, but he was immense in personality and had no equal in his field. He was happiest in the operating theater struggling with a difficult fracture or enjoying personal moments with his loved ones and close friends. He especially enjoyed entertaining the participants of his Parisien acetabular courses at the evening banquet by singing his favorite boyhood song "Les Prunes" escorted by his "band" playing champagne bottle instruments. His patient list read as a "Who's Who Directory" of French society, yet he would treat the most common citizen with the same respect and care as any high-profile patient.

Professor Emile Letournel died unexpectedly after a brief illness on August 16, 1994, at his home in Paris, France.



Jacques LEVEUF

1886–1948

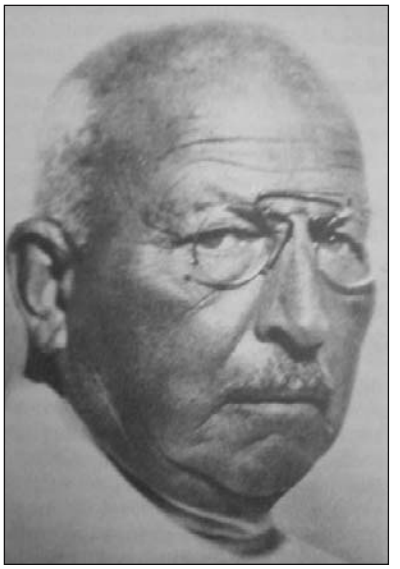
Leveuf was born in Limoges and studied in the School of Medicine in Paris. After the usual junior intern appointments he was for many years an assistant in the surgical clinic of Pierre Delbet. He worked with Delbet in the early attempts to nail fractures of the femoral neck under x-ray control. This experience no doubt largely determined his choice of the surgery of bones and joints as his life work. In due course he achieved the coveted status of "surgeon to the hospitals of Paris" and became surgeon-in-chief at the Bretonneau Hospital. In 1942, on the retirement of Professor Ombrédanne, Leveuf was chosen as his successor at the Clinique des Enfants Malades and in the Chair of "Infantile and Orthopedic Surgery"—the blue riband of Paris orthopedics. In the new surgical clinic designed by Ombrédanne, Leveuf began to work with ever-increasing intensity on the problem of the treatment of congenital dislocation of the hip by open reduction. Before the war he had carried out a survey of the late results of manipulative reduction in the province of Brittany, where the deformity was exceedingly common, and had been impressed by the high proportion of poor results. During the last 2 years he had established a center in Brittany for the diagnosis and treatment of this deformity. Arthrography, a technique in which he was a master, was practiced on the newly born, and many interesting observations had already come to light. His aim was to recognize those dislocations in which an interposition of soft tissues existed that would prevent concentric reposition

of the femoral head into the depths of the socket. Once this anomaly had been demonstrated it was, in Leveuf's view, a waste of time attempting to treat a congenital dislocation by manipulation.

Leveuf attended the annual meeting of the British Orthopedic Association in Manchester in October 1947, and appeared to be full of vigor. In the early part of 1948 he attended the meeting of the American Academy of Orthopedic Surgeons in Chicago. After his return from the United States it became evident that he was a tired man, and very soon there were unmistakable signs of the grave malady that brought his life to an end. By the death of Professor Jacques Leveuf at the height of his powers, French orthopedic surgery has been deprived of an outstanding modern leader. Leveuf had many close ties with Great Britain. His dynamic personality had become one of the features of recent meetings of the British Orthopedic Association, of which he was elected an honorary member in 1945. After the liberation of France, he was eager to establish contact with his British colleagues and to expound with characteristic vehemence and eloquence his views on congenital dislocation of the hip, on acute osteomyelitis, and on many other subjects in which he appeared always to challenge orthodox beliefs and practice.

Professor Jacques Leveuf has been taken away suddenly at the age of 63 in the midst of a strenuous surgical and scientific life. Many cultural, literary and artistic interests showed the breadth of his intellect. Above all, his character was notable for a swiftness of comprehension. His passion for surgery, and the flame of his enthusiasm, led him to express views with an ardor that won furious opposition, or enthusiastic support, but never indifference. With this impetuosity he nevertheless had the rare quality of being able to change his mind and modify his views quickly. This agility of mind, enthusiasm, and direct approach kept him surprisingly young.

He made of the Clinique des Enfants Malades a complete service, directing a group of distinguished colleagues, and himself taking a leading part in the orthopedic surgery of children in which he was so interested, in traumatology, neurosurgery, and plastic surgery. A member of the Academie de Chirurgie, the British Orthopedic Association, and the American Academy of Orthopedic Surgeons, he made his contribution with a fervor that commanded wide attention and interest not only in France but in the world. A great void is left in the surgery of France.



Erich LEXER

1867–1937

Erich Lexer[1,2] was born in Freiburg, West Germany, and was the son of a professor of German. During his adolescence, the family moved to Würzburg, where Lexer attended the university, graduating from the medical school in 1890. Following a short period of postgraduate study of anatomy in Göttingen, Lexer began his surgical training in 1892 in the famous clinic of Ernst von Bergmann in Berlin. He remained there for 12 years. During this period he established himself as an investigator and a surgeon. Lexer was appointed Professor of Surgery in Königsberg in 1905. He moved to Jena in 1910, Freiburg in 1919, and finally to Munich in 1928, where he was the successor to Sauerbruch.

His reputation as a general and plastic surgeon continued to grow, with the years in Munich marking the zenith of his career. His clinic was crowded with patients, students, and visiting surgeons from throughout the world. Unfortunately, an acute coronary occlusion brought an abrupt end to his life in 1937, just prior to retirement.

Lexer's early anatomic studies of the arterial circulation in the bones, coupled with his clinical work with patients with acute hematogenous osteomyelitis, formed the basis of our present

understanding of the etiology and pathogenesis of these bony infections. His pioneer work on the transplantation of tissues such as fat, fascia, tendons, nerves, and bone continues to influence orthopedic and plastic surgery procedures today. His use of whole joints from cadavers as transplants into patients was just a small part of this work. We are fortunate that one of his students has compiled a bibliography of these papers.[3]

Lexer's life, which he lived to the fullest, was characterized by vitality and energy. His ego at times caused him to be abrasive and aggressive, but none of his contemporaries doubted his ability. His great artistic talent was sublimated in his surgical technique, which was of such a high level of virtuosity that it lent itself easily to showmanship. Lexer was a surgeon in a very broad sense who made substantial and lasting contributions to the development of the special areas of plastic and orthopedic surgery.

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Robert Korn LIPPMANN

1898–1969

Dr. Lippmann was born and educated in New York, having been graduated from De Witt Clinton High School in 1915 and Columbia University in 1918, where he received a BS degree. From 1918 to 1922, Dr. Lippmann was a medical student at Johns Hopkins and was one of its several graduates who became internationally prominent in orthopedics. From 1923 to 1925, Dr. Lippmann was an intern at Mount Sinai Hospital. His first year in orthopedics was spent studying bone pathology in Vienna in the laboratory of Professor Erdheim, where he was introduced to a basic scientific approach to the specialty that remained the foundation of much of his future work. In 1925, he studied under Professor Putti at the Istituto Rizzoli in Bologna. On his return to Mount Sinai in 1926 as Adjunct Orthopedic Surgeon, Dr. Lippmann joined his Chief of Service, Dr. P. William Nathan, in practice. He began investigating the pathology and etiology of osteochondritis of the hip in children.

While Adjunct, then Associate Orthopedic Surgeon, and finally Chief of the Orthopedic Clinic at Mount Sinai Hospital, Dr. Lippmann also served as Adjunct Orthopedic Surgeon and Associate Orthopedic Surgeon at Montefiore Hospital. At Montefiore he became Chief of Service in 1938, but resigned in 1942, 3 years after he became Director of the Department of Orthopedic Surgery and Orthopedic Surgeon-in-Chief at Mount Sinai Hospital. Dr. Lippmann served as Orthopedic Surgeon-in-Chief for almost 30 years at Blythedale, a long-term children's care hospital in Valhalla, New York, and at the

time of his death was Director Emeritus of Orthopedics, and Emeritus Professor of the Department of Orthopedics of Mount Sinai School of Medicine.

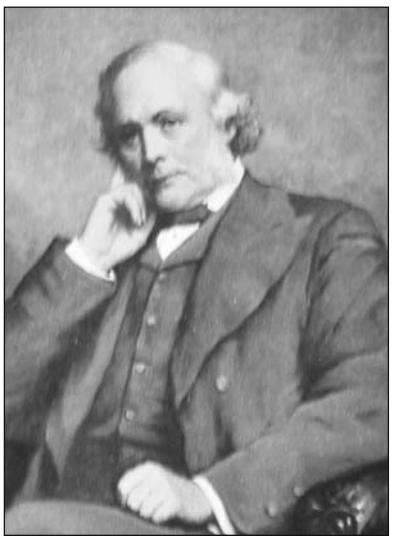
Dr. Lippmann was a superb craftsman, capable of translating his mechanical concepts into reality. In his office was a workshop with power tools and a lathe to work out the designs of devices that were later fabricated, or new instruments to facilitate his surgery. Among his many original contributions were the first compression bolt for fractures of the hip, spike osteotomy of the femur in children, repair of tibial condyle fractures, a transfixing hip prosthesis, etiology and treatment of adhesive capsulitis and parainflammatory joint instability, and auscultatory percussion of bone as a means of detecting fractures and assessing their progress of healing. The Robert K. Lippmann Orthopedic Research Laboratory at Mount Sinai was established in 1965 in his honor.

Outside his hospital practice, Dr. Lippmann participated in community, national, and international orthopedics. He was a Fellow of the New York Academy of Medicine, serving as secretary (1949–1950) and chairman (1950–1951) of the orthopedic section, and as a member of the advisory committee (1951–1956). He was a Fellow of the American College of Surgeons (1932), serving as a member of its New York and Brooklyn Regional Fracture Committee (1949). He was a Fellow of the American Academy of Orthopedic Surgeons (1932) and a member of the American Orthopedic Association (1954), the Orthopedic Research Society (1959), and the Société Internationale de Chirurgie Orthopédique et de Traumatologie (SICOT) (1957).

Dr. Lippmann developed a spirit of cooperation and dedication on the Mount Sinai Orthopedic Service. He encouraged free discussion, disagreements, and thorough exploration of clinical problems. These were his basic techniques in resident-training. He was an accomplished pianist and taught himself how to play the organ. In the back of his mind was always the idea that he would some day describe the principles of conservative orthopedics that he taught—a task that must be completed by his students. Dr. and Mrs. Lippmann's great friendliness was evident in their many contacts with the residents and staff, particularly at the monthly evening journal club meetings at their home in New York and at their summer home in Stamford.

At Mount Sinai Hospital, Dr. Lippmann's service and leadership over a period of 43 years, his scientific inquiry and teaching, his sense of humanity and the ethical code manifest in his practice and in his approach to patients formed the foundations of the orthopedic service and had great influence on the growth of the hospital as a whole.

Until his untimely and sudden death on June 9, 1969, at the age of 70, Dr. Robert Korn Lippmann was actively engaged in orthopedic practice. Dr. Lippmann was survived by his wife, his daughter, Mrs. Nancy L. Heon, his son, Robert D. Lippmann, and his grandson, R.R. Dennis Heon.



Joseph LISTER

1827–1912

Joseph Lister was born at Upton House, Essex, on April 5, 1827. For generations his family had belonged to the Society of Friends and the early influence of this body continued to govern his whole life. His father, J.J. Lister, was exceptionally versatile. He had considerable success in business in the city and somehow managed in his leisure to acquire a worldwide reputation for his researches in optics, which led to the perfection of the modern microscope and his election to the Fellowship of the Royal Society. He also collaborated with Thomas Hodgkin in the publication of papers on microscopic observations of blood and animal tissues. Furthermore, he was an accomplished artist and a good linguist. From this it may be gathered that the young Lister was born into an environment highly favorable for the

pursuit of science; and in his great quest he was destined to gaze at the amazing new world of microorganisms through an apparatus perfected by his own father.

As a boy, he was sent to private schools where he showed an early taste for natural science and which led to his choice of medicine as a career. At the age of 17 he entered University College Hospital, London, where he took his BA degree before proceeding to professional training. He proved himself a brilliant student, occupied a leading place in his own school, and took honors at the university examinations.

He was particularly attracted to physiology and was fortunate in his masters. Wharton Jones and Sharpey were inspiring teachers, who at that time were laying the foundations upon which a succession of great investigators built a school of physiology at University College, which became justly famous. Both these men taught him the scientific method of research. Wharton Jones, a prolific worker, was interested in the mechanism of the circulatory system and the stages of inflammation; for his investigations he used the frog's web and the bat's wing. Lister undoubtedly owed much to this master of research; he copied his method, in the use of web and wing, in his own later researches upon inflammation, which led to the revolutionary discovery of the antiseptic principle in surgery. Sharpey was both friend and teacher to Lister and it was he who commended him to Syme.

Inspired by these two men, Lister, while yet an undergraduate, carried out original work on the involuntary muscle in the eye and skin. Kölliker had discovered that the iris consisted of involuntary muscle, and Lister, extending the research, found that it consisted of two separate muscles—the sphincter and the dilator. This particular work attracted considerable attention and led to a firm friendship between the two observers that lasted throughout their lives.

It was at this time too that anesthesia was introduced into surgical practice. Sir Humphry Davy had worked on nitrous oxide in his laboratory, and from the narcotic effect of the vapor upon his own person declared as early as 1800 that the gas might have its uses in surgery; and in 1824, Henry Hickman of Ludlow proved its efficacy in operations upon small animals. At last Horace Wells in America used the gas successfully in his private practice as a dental surgeon, but when he attempted to demonstrate its use in general surgery, he failed dismally and had to face pitiless ridicule. But in 1846 W.T.G. Morton, whom Wells taught, succeeded in inducing anesthesia while J.J. Collins Warren removed a tumor from a patient at the Massachusetts General Hospital, Boston. On December 21 of the same year, Robert Liston at University College Hospital carried out the first operation under anesthesia in England by performing an amputation through the thigh.

This was a memorable time—the birth of a new epoch in surgery—days to which men would look back. No longer need a patient be terrified at the whisper of an operation, nor a surgeon be called upon to quash his feelings almost to the point of callousness. At long last surgery had become more humane. But surgery was not yet safe. Anesthesia promoted adventure; but sometimes sadly disastrous adventure; the patient survived the operation but risked death from later gangrene or sepsis. However good a craftsman the surgeon might be, he was, in the words of Volkmann, "Like a husbandman, who having sown his field waits with resignation for what the harvest might bring, and reaps it fully conscious of his own impotence against the elemental powers which may pour down on him rain, hurricane, and hailstorm." And yet, strangely enough, actually looking on at Liston with wondering eyes was the very man destined for the task of making surgery safe.

At the proper time Lister qualified with the MB (London) and was appointed house physician and later house surgeon. In 1852 he gained the FRCS (England) and the next year went to Edinburgh with an introduction to Syme. The great Scottish surgeon received him cordially and there began a friendship between them that the years increased. Syme was one of the most original surgeons of his time and was an outstanding teacher. Lister became his house surgeon, reported his lectures to the *Lancet*, and was a most enthusiastic pupil, eventually marrying his eldest daughter Agnes.

After a period assisting Syme in hospital and private practice, Lister was elected, on October 13, 1856, to the post of assistant surgeon to the Edinburgh Royal Infirmary. He held this post for 4 years, during which time he lectured on surgery; his teaching of which was suffused with pathology, for he held that students should have their knowledge built upon, and their reasoning stimulated by, a scientific foundation. At the same time he continued his researches, the fruit of which was embodied in papers read before the Royal Society. He gained a reputation as a first-rate investigator, a stimulating teacher, and a good

operator, added to which he was transparently honest and modest.

In 1860 the Chair of Surgery at Glasgow University became vacant and Lister was appointed Regius Professor. He was soon lecturing to one of the largest classes of medical students in Britain, but what impressed him most were the limitations of surgery as a means of relief for human suffering; gangrene and suppuration were only too rife in hospital wards. It is difficult for us to imagine the state of affairs that prevailed. In the case of a compound fracture, the scales were weighted on the side of the loss of life or limb. Hospital gangrene is to us a term in medical history, but to our predecessors it was a perpetual black menace. Most surgeons were resigned to the occurrence of inflammation and suppuration in wounds and looked upon them as a natural and inevitable consequence of injury. But Lister, pained and distressed by the frustration of surgery, was unwilling to accept this fatalistic attitude and regarded "hospital diseases" as an evil to be overcome. More and more did his thoughts turn to their cause and prevention. His ideal of what should happen in a wound was what occurred in a subcutaneous injury, such as a simple fracture in which repair took place without inflammation, suppuration, or constitutional disease; and none was better placed or better equipped for the solution of this baffling problem. From early life he had been accustomed to the scientific attitude towards phenomena around him and he had been fortunate in the masters who trained him. When he arrived in Glasgow, he was already mature as a scientific investigator; indeed among surgeons there was scarcely anyone so well equipped; he belonged to the Hunterian tradition.

Of his many papers embodying the results of researches, two in particular were of great significance, indicating the trend of his thinking and the preparation leading to the accomplishment of his great task. The study of coagulation of the blood attracted his attention for many years. This physiological phenomenon in the healing of wounds formed the subject of his Croonian Lecture before the Royal Society in 1863. In considering the pathology of the open wound, he was led to the study of the genesis of inflammation. The later stages had been studied by other observers, but information about the earliest onset was uncertain. Lister, with his microscope, observing the capillaries of the frog's web and the bat's wing when they were subject to irritants of all kinds, accurately described for the first time the beginning of the inflammatory process. The vascular reaction to irritation was found to be produced indirectly through the medium of the central nervous system. This work he communicated to the Royal Society in 1857 in a paper entitled "The Early Stages of Inflammation". This particular study led him to regard putrefaction as the cause of suppuration and wound infection; decomposition was set up, though inexplicably, by the air. Such had been his teaching to students when, in 1865, he became acquainted with the writings of Pasteur, and learned that putrefaction was a fermentation due to the growth of minute microscopical organisms, which were disseminated by dust, blown about in the air, and which could also be found on all material objects. This was an astounding revelation; it was the opening of a biological new world of microorganisms.

Lister soon realized that Pasteur's explanation of putrefaction was applicable to the decomposition of wounds. Already he had thought the air to be a contaminating influence, and this view was now confirmed and the active agent revealed. The next step was to prevent microorganisms from gaining access to the open flesh. To the attainment of this ideal, and to the perfection of its accomplishment, Lister dedicated the rest of his life. He started by casting about for a suitable antiseptic and on learning of the success of carbolic acid as a disinfectant in dealing with sewage at Carlisle, he decided to give this chemical a trial on wound treatment. After investigation with the pure acid, he finally adopted a 1 in 20 watery solution, and this strength of carbolic acid became a permanent feature of his technique. With this solution he cleansed his hands, his instruments, the patient's skin, and the wound itself. Lint soaked in carbolized oil was first used as a dressing but after many experiments was abandoned in favor of a putty made of carbonate of lime and a solution of 1 in 6 carbolic acid in linseed oil.

The result of this treatment upon abscesses and compound fractures was astonishing. Suppuration disappeared; wounds became healthy; patients were comfortable; the number of amputations diminished rapidly; and Lister was able to say: "But since the antiseptic treatment has been brought into full operation, and wounds and abscesses no longer poison the atmosphere with putrid exhalations, my wards, though in other respects under precisely the same circumstances as before, have completely changed their character; so that during the last nine months not a single instance of pyaemia, hospital gangrene, or

erysipelas has occurred in them. As there appears to be no doubt regarding the cause of this change, the importance of the fact can hardly be exaggerated."

His first paper announcing this new principle of surgical treatment appeared in the *Lancet* in 1867, entitled "On a New Method of Treating Compound Fracture, Abscess, etc., with Observations on the Conditions of Suppuration." And the same year at a meeting of the British Medical Association in Dublin he read a paper on "On the Antiseptic Principle in the Practice of Surgery." It should be noticed that he stressed the principle and not the use of a particular drug in treatment; it was as though he foresaw that the method might change but that the principle was unchangeable. His constant aim was the prevention of sepsis in wounds, with the least irritation to the tissues.

From then on, Lister's main purpose in life was to gain acceptance of the antiseptic principle as fundamental in the practice of surgery. The road he had to travel in gaining his objective was more arduous than he imagined. For some years his teaching was misunderstood and he had to meet violent criticism. Strangely enough, many medical schools were indifferent, or accorded the doctrine a chilly reception. On the other hand, well-known surgeons in France and Germany were not slow to see the merits of the antiseptic principle and he was encouraged by the enthusiasm of some industrial surgeons at home. The best missionaries of the new surgical learning were Lister's house surgeons and pupils. They had been witnesses of the principle in practice and with conviction they went out to preach the new doctrine. The rest of Lister's time at Glasgow was occupied in the observation and recording of various diseases and injuries dealt with by the new treatment. He also introduced carbolized catgut for the ligature of arteries after testing it in the calf.

In 1869 he was elected to the Chair of Clinical Surgery at Edinburgh, in succession to Syme, and the students received him with enthusiasm. He became fully occupied with the duties of the Chair and of his large private practice, but in the laboratory in his own home he carried out endless experiments with the object of improving methods of carrying out the antiseptic principle and rendering its use in everyday practice more simple.

He remained in Edinburgh until 1877, when he was invited to a Chair of Clinical Surgery at King's College, London. The position he occupied in Edinburgh was far superior to the one offered him in London, but he was attracted by the great city itself and the opportunity it gave him of converting London schools to acceptance of the antiseptic principle, for hitherto it had made little headway there. He therefore migrated south, back to the city of his youth, where he had many friends who pressed him to come. He continued to occupy the Chair at King's College until 1892 and during these years perfected details of the antiseptic method and gave up the carbolic spray. He had the gratification of seeing his teaching accepted in London, and indeed throughout the world.

Acceptance of the antiseptic principle revolutionized the practice of surgery and led to phenomenal advance in all its departments. No branch of surgery felt the impact more than orthopedic surgery. The introduction of subcutaneous tenotomy had been hailed as a great advance in the treatment of deformities, but it had strict limitations. With the prospect of safe open operations there dawned a new era of immense possibilities for the treatment of injuries, diseases, and deformities. Indeed the successful management of the compound fracture by Lister stands at the very beginning of the introduction of the antiseptic method. He pointed out that blood clot, protected by an antiseptic, would be organized by the ingrowth of cells and vessels from its vicinity; in this way callus was formed. He also explored the badly united fracture, reset the fragments and wired them. He was the first to explore simple transverse fractures of the patella and olecranon and to bind them with wire until union occurred.

In 1880, William Macewen of Glasgow, a pupil of Lister, operated upon a boy whose shaft of the humerus had been destroyed by osteomyelitis. He sewed tibial grafts along the former track of the bone and a new shaft was reproduced. Another pupil, Thomas Annandale of Edinburgh, in 1883 for the first time deliberately explored a knee joint for internal derangement and discovered an internal semilinar cartilage completely separated from its anterior attachment to the tibia. The cartilage was stitched back in its proper place, the man recovered perfect movement of the joint and returned to his work. For many years before Esmarch introduced his elastic bandage, Lister had operated upon bloodless limbs. He would have a lower limb lifted as high as possible from the table and kept elevated for a few minutes, and then he applied a tourniquet at the upper part of the thigh. This provided a bloodless field for

operation. He proved experimentally that blood left the limb not by gravity alone but also by reflex constriction of the arteries induced by stimulation of the vasomotor nerves. This is still a valuable procedure, particularly when it is inadvisable to use an Esmarch bandage.

Lister retired from practice in 1896 but continued his scientific work. In the next year he was elected President of the Royal Society. Many other academic honors and foreign orders had been showered upon him. His appearance at scientific meetings in foreign countries had been greeted with triumphal acclaim. He was made a baronet in 1883, a peer in 1897, and was one of the original 12 members of the Order of Merit instituted in 1902. He died at Walmer in Kent on February 10, 1912. The universal and abiding value of Lister's work for the physical ills of mankind has made him one of the outstanding benefactors of humanity.[1,2]

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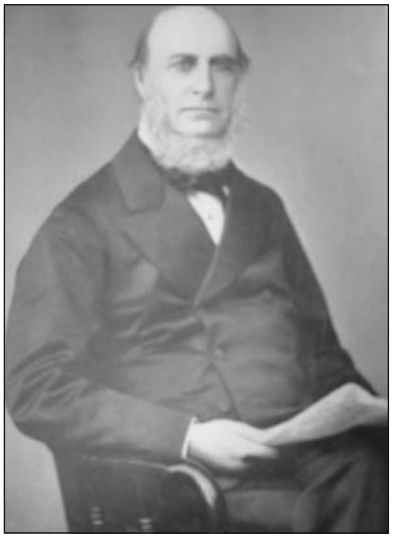

William John LITTLE

1810–1894

Orthopedic surgery was one of the earliest specialties to emerge in England but its evolution was slow and gradual. In our own day we have witnessed the growth of special branches of surgery from infancy to maturity; but it required more than a generation to bring orthopedic surgery to full stature. It started at the beginning of the Victorian era and, like many another movement, owed its inspiration to the leadership of one man, in this instance William John Little. He was afflicted with a deformity of the foot due to infantile paralysis and, being compelled to contemplate his own disability and seep its cure in vain, he was aroused to the misery of thousands of cripples here in England. He came from Norfolk farming stock who had lived for many generations in and about the village of Carbrooke near Kimberley. His father, John Little, migrated to London and eventually became proprietor and host of "The Red Lion" in Aldgate, a famous hostelry, which was haunted by the memories of Dick Turpin who had often called there.

William John Little, the third child of his parents, was born on August 7, 1810. His earliest recollection recalls a fragment of social history that can be read with appreciation today:

> The year 1814–15 was remarkable in my child history. The long war of over twenty years with France was terminated, but it left a heavy burden of debt upon our nation. Scarcity of food was experienced by the poorer classes on and off during the war. Bread riots occurred

during the Autumn and Winter of 1814. I remember seeing the most riotous crowd of people being driven uninjured along the remarkably wide High Street of Whitechapel eastwards by a body of cavalry soldiers apparently from the City. Afterwards, during the winter of 1814–15, the 10th Hussars were lodged in the district, their headquarters being at my father's house, the Red Lion Inn. They occupied all above the ground floor which was not required by the family. I must have been a highly privileged little person, often admitted into the drawing room which was occupied as the day-room of the officers, some ten or a dozen in number. The Colonel often took me on his knee. I well remember that in the Spring of 1815 the Regiment's Route had come, and was informed of the road by which they were leaving via Essex to embark for the Continent at Harwich. The Colonel (Clinton) kindly took me on his knee, patted me, condoled with my regret upon their leaving and told me that he hoped to return and see me again. I expect he was a family man, and was thinking of his own family as he was again about to set out on Foreign Service. The contest at Waterloo took place on the following 18th June. . . . The year 1814–15 was in many ways a remarkable one and forcibly impressed itself on my mind and memory. . . . It was also during the Spring of 1814 (February) after three months of frost that the Thames in London was solidly frozen up above and below London Bridge when a fair was held on the River. My father took me to the fair and I believe that I remember the gingerbread stalls and the preparations for, if not the roasting of, an ox.

When he was 4 years old Little suffered from infantile paralysis. The antero-external group of muscles of the left leg were completely paralysed, leading to contracture and talipes equinovarus. His young school companions in England gave him the nickname "lame duck" and in France "canard boitu." He attended a day school at Goodman's Fields and acquired knowledge of French, as well as of English grammar and arithmetic. About this time he and his father went to Paris, spending 2 days on the sea crossing. Both arrived at Dieppe, prostrate with sea sickness. After 2 years at the day school, he spent some years at a school at St. Margaret's, near Dover, and at the age of 13 entered the celebrated Jesuit College of St. Omer, near Calais. Here he distinguished himself by winning, against native competitors, the prize for French composition. He afterwards spoke highly of the management of the College, and of the instruction and kindness that he received; the Fathers made no attempt to convert the young Protestant.

On leaving St. Omer he decided upon a medical career. For 2 years he was apprenticed to James Sequeira, a surgeon apothecary of Aldgate, whose family became well known in the medical world. In 1828, Little entered as a student at the London Hospital where Sir William Blizzard was then lecturing on surgery. He also attended classes at the Aldersgate School of Medicine, where Robert Grant of University College lectured on anatomy and Thomas Hodgkin of St. Thomas' lectured on pathology. In 1831, he qualified by obtaining the Licence of the Apothecaries Company and the next year received the diploma of Membership of the Royal College of Surgeons. In 1832, the committee of the London Hospital decided to send Dr. Frederick Cobb, one of their physicians, to investigate an outbreak of Asiatic cholera at Tyneside. Dr. Cobb took Little with him and both set out by coach, in wintry weather, for Newcastle.

From the time he began to study medicine, Little sought a means of curing, or at least minimizing, the disability for which he had been obliged to wear a leg appliance. His hopes were raised by reading in Cruveilhier's *Anatomic Pathologique* of Delpech's improved method of dividing the tendo Achillis in a case of club foot. He begged Sir Astley Cooper and other surgeons to perform the operation, upon his own tendon, but none would consent because of the risk of diffuse suppuration and sloughing. Since Delpech did not repeat the operation, it seems that he was not pleased with the result. Little's hopes were, however, revived by reading in the *Archives Generates de Medicine* that Dr. Louis Stromeyer of Hanover had proposed important modifications of Delpech's plan and treated two patients successfully. Little decided to go to Germany and learn for himself, taking with him a letter of introduction from Robert Grant to Johannes Muller. In 1835 and 1836, he visited Leyden, Leipzig, Dresden, and Berlin, and made contact with several distinguished surgeons and anatomists. He found that there was no more enthusiasm for the operation in Germany than in England. However, Professor Muller and Professor Froriep of Berlin considered that Stromeyer's operation was based on sound anatomical and surgical principles. Thus encouraged, Little went to Hanover and placed himself under the care of Stromeyer, who divided his tendo Achillis, gradually corrected the deformity of the foot, and gained a successful result. Little was more than pleased with the treatment. Stromeyer gave him the opportunity of performing subcutaneous tenotomy himself. The operation of Delpech had been done through a one-inch incision on each side of the tendo Achillis, and it was therefore liable to infec-

tion. On the other hand, Stromeyer's operation was truly subcutaneous, performed through a single tiny puncture—the only method with any claim to safety in the pre-Listerian era. Little returned to Berlin. He showed his cured foot, and demonstrated Stromeyer's operation, to both Muller and Diffenbach and convinced them of the great advance initiated by this new procedure. He impressed them so much that he was allowed to dissect many deformed fetuses in the Berlin museum. An account of these researches, and of the treatment of talipes varus, including that of his own case, were embodied in a Latin thesis entitled "Symbolae ad Talipedem Varum Cognescendum," for which he was awarded the degree of Doctor of Medicine of Berlin.

Little returned home and carried out the first subcutaneous tenotomy in London on February 20, 1837, the year that Queen Victoria came to the throne. This was the beginning in England of a serious attempt to deal with deformity by operation and manipulation. The treatment of club foot had been neglected, and Little threw himself with great ardor into the task of rousing the profession. Patients quickly came his way; he gained experience; and in 1839 he published his treatise on "club foot and analogous distortions.[3] He described in detail the varieties of talipes and their treatment by operation, manipulation, and splinting. In this book the deformity "talipes cancaneus" was so named and described for the first time—"bearing the same relation to T. valgus as T. equinus bears to T. varus." This classic was the first frankly orthopedic work to be published in this country. On July 3 the same year he was elected assistant physician to the London Hospital. He had become a Licentiate of the Royal College of Physicians. He was also appointed lecturer on comparative anatomy and physiology and later lecturer on medicine. His position as a consulting physician who practiced tenotomy was somewhat anomalous, but he was strongly advised by friends and by his teacher, Dr. Archibald Billing, that there was no impropriety in so doing. Throughout his professional career he practiced no less as a medical consultant than as an orthopedic surgeon; but his combination of both may have influenced the delay of his election to the Fellowship of the Royal College of Physicians.

The problem of the cripple had been present to his mind from boyhood, but it gathered force with increasing knowledge of the unhappy plight of thousands of cripples left to their fate. He had found himself in possession of a remedy, and it became insistent in his mind that the remedy should be put to the service of the community.[1] He dreamt of an institution for the study and treatment of cripples, and to this project he applied all his energies. After spending 2 years in collecting funds and finding a site, the Orthopedic Infirmary was opened in 1840 in Bloomsbury Square. Lord Chancellor Eldon was chairman. This was the first hospital in Britain to be devoted solely to the study and treatment of disabilities of the limbs and spine and in which the word "orthopedic" was incorporated in its name. It was something new; and it was an outward and visible sign that a special branch of surgery was emerging. It attracted such public support that greater accommodation soon became necessary. A large mansion on the north side of Hanover Square, formerly occupied by Earl St. Vincent, the famous Admiral, was bought and altered to provide accommodation for 50 beds. Patients were transferred from Bloomsbury. On March 25, 1845, a Royal Charter of Incorporation was granted to the Infirmary, the name of which was changed to "The Royal Orthopedic Hospital." Some years later, two other hospitals were founded—the City Orthopedic Hospital in Hatton Garden in 1851, and the National Orthopedic Hospital in Great Portland Street in 1865. It is worth noting that at this last hospital, in 1892, Mrs. Muirhead Little started the first hospital school of which there is any record. She noted with misgiving how long-stay patients were deprived of education. She started with part-time teachers; but the venture was so successful that a whole-time teaching staff was soon employed. This was many years before the Board of Education began to consider the provision of special residential schools.

Early in this century all three hospitals amalgamated; and in 1905 a new Royal Charter was granted, giving the combined hospitals the name of Royal National Orthopedic Hospital. The National Hospital in Great Portland Street was pulled down and a fine building with 200 beds was erected in its place. The new hospital inherited a great tradition. It was in the direct line of W.J. Little's foundation of 1840, and there were memories of distinguished men who played their part in forming that tradition, including Adams, Fisher, and Hughlings Jackson, to name but a few. In 1922 the country branch at Stanmore was started. It was developed continuously until the outbreak of the Second World War, when it became a sector base hospital. Since the war, the

hospital has had attached to it the Institute of Orthopedics of the University of London for the training of postgraduates in orthopedic surgery, the Board of Governors including representatives of the Royal College of Surgeons and the British Orthopedic Association.

After the establishment of his hospital, Little continued his clinical and pathological investigation of deformities. In 1843, he published a monograph: "On Ankylosis or Stiff Joints." This was a masterly summary of what was then known of the pathology of ankylosis.[2] He described the application of tenotomy, and he advocated gentle and gradual methods of correction. He also began the teaching of orthopedic surgery. His lectures and notes were published in 1855—"Lectures on the Deformities of the Human Frame," in which he gave a full and accurate description of a hitherto unknown disease, affecting two brothers, together with autopsy findings. He gave no name to the disease and his description of it escaped notice. But 13 years later, Duchenne described the same malady and called it pseudo-hypertrophic muscular paralysis.

On October 2, 1861, before the Obstetrical Society of London, he read a paper: "On the influence of abnormal parturition, difficult labour, premature birth and asphyxia neonatorum on the mental and physical condition of the child, especially in relation to deformities." In his first book, and in "Lectures on the Deformities of the Human frame," he had already described infants with spastic paralysis, but in this contribution he dealt extensively with a study of 63 cases. This paper, published in 1862, in the third volume of *Transactions of the Obstetrical Society*,[4] aroused widespread interest, and spastic paralysis of infants became known as Little's disease. He wrote many other papers and delivered many addresses. For Timothy Holmes' *System of Surgery* he wrote on orthopedic surgery. In 1868 he published a monograph "Spinal Weakness and Spinal Curvature." In 1881, when the International Medical Congress was held in London, he contributed two papers, one on club foot and the other on genu valgum. His last monograph, "Medical and Surgical Aspects of In-knee (Genu Valgum)" was published in 1882 in conjunction with his son, E. Muirhead Little.

He visited Canada and the United States in 1878, saw McDonnell at McGill Medical School and the Montreal General Hospital, and at Quebec saw the Governor-General, Lord Dufferin, who was one of his old patients. In New York he met Detmold, born in Hanover, a pupil of Stromeyer, who introduced subcutaneous tenotomy to America. Detmold was surgeon to Bellevue Hospital, and he recognized in Little a kindred spirit. He introduced him not only to Bellevue, but to many other hospitals in the city. Little also met Judson, with whom he discussed spinal curvature. This American tour was the outstanding feature of the last years of his active practice.[5] He retired in 1884 and thereafter lived at Ryarsh, near West Malling, Kent. He lived long enough to see orthopedic surgery established in England and to receive the honor due to him as a pioneer. He was elected honorary member of the medical societies of Florence, Dresden, and Constantinople. He died at Ryarsh, after a few days' illness, on July 7, 1894.

In his younger days Little was handsome. He was tall, with brown hair, grey eyes, and regular features; but early baldness gave him a venerable appearance. By nature he was reserved and retiring; but he held firmly to his convictions. In old age, increasing deafness did not alter his kindly disposition. He married Elizabeth, the daughter of Thomas Roff Tamplin, of Lewes, Sussex. Two of their sons became surgeons. Louis Stromeyer Little was surgeon to the London Hospital until he resigned and went to practice in China. Ernest Muirhead Little became honorary surgeon to the Royal National Orthopedic Hospital and was elected first President of the British Orthopedic Association.

William John Little did three things. He introduced subcutaneous tenotomy to England—a landmark in the cure of cripples. He wrote the first important book on orthopedic surgery—a publication that stimulated scientific investigation. He established the first orthopedic hospital for the study and treatment of disabilities of the limbs and spine. He was indeed the founder of British orthopedic surgery.

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Eric Ivan LLOYD

1892–1954

Eric Lloyd was born in 1892, the son of J.H. Lloyd of Birmingham. He was educated at Leighton Park, Reading, a school of which he later became a governor, and at Trinity College Cambridge. In his youth he was a fine athlete and was allotted a half-blue for the half-mile while at the university. He proceeded to St. Bartholomew's Hospital to complete his medical education, and passed the final examination of the Conjoint Board in 1916. He promptly joined the Royal Navy and served as a temporary surgeon for two and a half years, most of the time on a ship at sea. On returning to London at the end of the war, he held two resident appointments at "Bart's," house physician and house surgeon, and having passed his final Fellowship he became a demonstrator of anatomy for a time and was then appointed clinical assistant to both the orthopedic and massage departments. These two appointments initiated his ever-increasing interest in orthopedic surgery, for he had the privilege of working under that very distinguished surgeon, the late R.C. Elmslie, who was in charge of both these departments. In addition to the routine work, Elmslie allotted him the by-no-means easy task of clearing out the crowd of old chronics that was clogging the massage department.

In 1923 he had the invaluable experience of crossing the Atlantic and visiting a number of clinics in Canada and the United States. On his return to London, he obtained the post of house surgeon at the Hospital for Sick Children, Great Ormond Street, a hospital to which he gave devoted service for the rest of his life. He was later appointed medical superintendent of the hospital, a post he held for 2 years, during which he gained valuable general experience of sick children, including operative surgery for emergency cases. In 1926 he became surgical registrar, and before the end of the year was appointed to the honorary staff.

Although his interest was always concentrated on the orthopedic work, he was not actually designated orthopedic surgeon to the hospital until 20 years had elapsed. During his early training he had served as registrar at the Royal National Orthopedic Hospital, where he gained further general experience of orthopedic surgery. For several years he held the post of orthopedic surgeon to the Royal Northern Hospital, a post from which he resigned in 1948, and for a time he was consulting orthopedic surgeon to the London County Council. Throughout these years, though he was acquiring an ever-increasing general experience of orthopedics, his heart was always dragging him towards his young patients at the Children's Hospital.

He was a scrupulously careful technician, and he gave an endless amount of thought to the details of any operation he was called upon to perform. He published a useful article on the technique of operating on the knee joint. He had quite a mechanical turn of mind and designed an ingenious director to facilitate the correct insertion of a Smith–Petersen pin in the neck of the femur. This he published in this country and also in a French journal. Later he suggested a modification of the pin to prevent it from sliding out, an introducer and an extractor. His director was rather complicated and never came into general use. He also designed quite a useful tilting table for holding a patient during operation for congenital dislocation of the hip, and he suggested the use of copper strips to facilitate the removal of a plaster-of-Paris splint.

With the exception of two or three early surgical papers, all the articles he wrote, probably not

more than 20 in all, were devoted to orthopedic subjects. He published a second paper in a French journal, one dealing with the manipulation of joints. He also contributed to the later editions of that well-known textbook on diseases of children, which still bears the name of the original authors, Garrod, Batten and Thursfield. His writings, like everything else he did, were backed by most careful and conscientious study, and invariably contained sound advice. In the Second World War he readily responded to an appeal for help from an emergency hospital near St. Albans, which was staffed by some of his friends of St. Bartholomew's Hospital and was being overwhelmed with casualties from Dunkirk. Later he became an official surgeon of the Emergency Medical Service on the staff of the hospital.

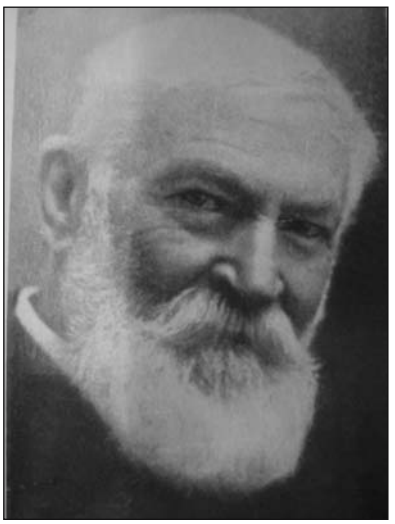
As a Fellow of the Royal Society of Medicine, he served as secretary of the pediatric section and became president of the orthopedic section. He was a Fellow of the British Orthopedic Association and a member of the Société Internationale de Chirurgie Orthopédique et de Traumatologie.

Having been born a member of an old and distinguished Quaker family, he always remained a keen and faithful Friend. At the beginning of the First World War, before he qualified, he served for a time in the Friends Ambulance Unit. When he went to live in that charming house he had in Hertfordshire, he became an active and valued member of the Friends of Harpenden. He was a member of the local golf club and became a vice president of the local horticultural society.

It was his deep sincerity and integrity, coupled with cheerful friendliness, which made Eric Lloyd a real friend of all he met. To his juniors he was always kind and considerate. The painstaking thoroughness with which he approached every surgical problem never failed to impress his patients or their parents, while his natural charm and kindliness soon won their hearts. They became convinced they were dealing with a man they could trust to do the utmost that surgery made possible, and they knew he would tell them the truth if complete cure was impossible. The same happy relations existed with his colleagues who, without exception, were his real friends. As a surgeon he earned their esteem and admiration for his skill, his sound judgment and his obvious integrity and loyalty. He himself was the most severe critic of the results of his own operations. His colleagues knew they could always rely on him for valuable and ready help. More than one of them has testified to his exceptional value in committee work: on more than one occasion it was Eric who came to the rescue, and who, with a few wise words, coupled perhaps with a touch of his wit, was able to smooth out differences when discussion of a difficult problem was becoming somewhat heated. He will always be remembered with gratitude.

Keen as he was on his work, he was equally devoted to his home. In 1922, shortly before he began to work at the Children's Hospital, a friend at "Bart's" persuaded him to go for a trip to South Africa. Fortunately for him, a Miss Antoinette Marie Roux was traveling home to Pretoria in the same ship—the lady who a few years later became his devoted wife and eventually presented him with a son and a daughter.

Of Eric Lloyd it can be said with truth "His integrity stands without blemish."



Adolf LORENZ

1854–1946

Adolf Lorenz was a dominating figure in European orthopedics during the closing years of the nineteenth century and by then he had standardized his manipulative technique for the bloodless reduction of congenital dislocation of the hip. It was not until 1904 that he began to travel to other countries to demonstrate his method to surgical audiences who were eager to see the master at work. In the catastrophic financial collapse of Austria, which followed the First World War, Lorenz lost his life savings overnight,

but during the next decade he repaired his fortunes in a series of visits to the United States.

His tenure of the professorship of orthopedics in Vienna had then come to an end under the age limit and his creative work lay behind him in the past. His one remaining contribution was to popularize the operation of bifurcation osteotomy (1919). It was not his own idea, for Von Baeyer had already worked out its mechanical basis, and the chief credit for the more discriminating application of this procedure to different types of hip joint affection must be given to his pupil, Julius Haas, who followed him in the university chair and filled it with distinction until he was forced out by the Anschluss. Lorenz has told his own story, and it is part of the history of European orthopedics, in his autobiography written in vivacious fashion at the age of 82 (Scribners, New York, 1936). He made of orthopedics a spectacular art and his place is secure in our gallery of heroes.

J. Otto LOTTES

1906–2002

J. Otto Lottes was born in a hamlet in rural Missouri. He was raised in Cape Girardeau, MO, one of the oldest European settlements on the west bank of the Missouri river. At the age of 13 he began working for the local pharmacist as a delivery boy. By the age of 21 he had graduated from the St. Louis College of Pharmacy and become a registered pharmacist. Working as a pharmacist, he completed his education and in 1934 entered the 2-year medical school at the University of Missouri, in Columbia. He finished his medical education at the University of Louisville, receiving his medical degree in 1937. His education was obtained in spite of great hardship.

He began his internship at the St. Louis County Hospital in 1937. After an internship and 6 months of residency training, he was called to service with the US Army Medical Corps. He had a distinguished career in the army, beginning as the chief of the station hospital in Dutch Harbor, Alaska, the 201st General Hospital in Camp Ellis, IL (later moved to outside of Paris), and the Hessing Orthopedic Hospital in Augsburg, West Germany.

After getting out of the service, Lottes returned to St. Louis, repeated an internship and then had his residency in orthopedic surgery under the aegis of J. Albert Key. It was while he was an intern that Lottes developed and perfected his ideas about an intramedullary nail for the tibia, working at night in the morgue of the hospital. The Lottes nail was one of the first major contributions to the technical development of intramedullary nailing by an American orthopedic surgeon. Lottes practiced in St. Louis until 1982 before retiring to his home in Cape Girardeau.

In gratitude for the university that gave him the opportunity to obtain his education, Lottes, who worked in the library at night while a student, gave the University of Missouri–Columbia Medical School, one million dollars in 1985 to build a new library, which was named the J. Otto Lottes Health Sciences Library.

William Laurence MACDONALD

1900–1986

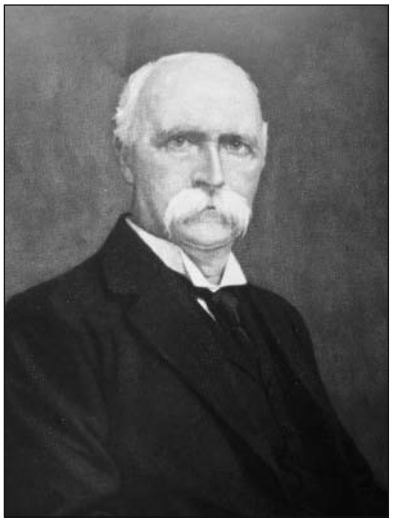
The Australian Orthopedic Association lost one of its principal founders during the year that it was preparing to celebrate its Golden Jubilee. In 1936, Laurence Macdonald returned to Australia after 8 years' postgraduate study in orthopedics in the United Kingdom and, with his colleague Alex Hamilton, persuaded the more senior orthopedic surgeons in Sydney to form a new association based on the British Orthopedic Association. The first meeting of this new association was held in 1936 with 15 foundation members, E.B.M. Vance was elected president, A.R. Hamilton honorary secretary, and W.L. Macdonald editorial secretary. Macdonald and Hamilton continued to play a dominant role in the new association and both survived all their other foundation colleagues.

Laurie Macdonald graduated in medicine from the University of Sydney in 1924 and spent 4 years as a resident medical officer at several hospitals in Sydney, including the Royal Alexandra Hospital for Children. In 1928 he went to Liverpool on the advice of E.B.M. Vance, and obtained the degree MCh(Orth) and also the Fellowship of the Royal College of Surgeons of Edinburgh. During his course at Liverpool he was invited by Sir Robert Jones to fill a vacancy as medical officer at the Shropshire Orthopedic Hospital. Macdonald accepted on the condition that he would stay for only 3 months. In fact he stayed for 5 years and for the last 3 years was resident surgical officer there. This was at a time when Australians filled the majority of the posts at Oswestry. He returned there in 1960 and had the honor of unveiling a plaque to commemorate a Commonwealth Ward.

During World War II, Macdonald was in the Middle East with the Sixth Australian Hospital. He was evacuated from Greece and Crete and then joined his orthopedic colleague John Colquhoun at the Second Australian Hospital in Egypt, where they formed a special orthopedic unit. When the hospital returned to Australia, this unit became the First Australian Orthopedic Hospital. It was first based at Mt. Eliza in Victoria and later moved to Toowoomba and finally to Brisbane in Queensland.

After World War II, Laurie Macdonald continued his orthopedic practice with a special interest in pediatrics. He was an honorary orthopedic surgeon to Sydney Hospital, the Royal North Shore Hospital and the Royal Alexandra Hospital for Children. His early training at Oswestry, in pre-antibiotic days, gave him a conservative approach to most surgical problems. When the British volume of *The Journal of Bone and Joint Surgery* was established in 1948, Macdonald was appointed, with A.V. Meehan, as one of the first Australian representatives on the editorial board. He was later made an honorary fellow of the British Orthopedic Association. He was president of the Australian Orthopedic Association in 1959 and 1960 and made an honorary fellow in 1968. He was also a staunch supporter of the Royal Australasian College of Surgeons and served on the Court of Examiners for several years.

Like his friend and colleague John Colquhoun in Melbourne, Laurie retained pride in his Scottish ancestry and they shared a lifelong enjoyment in playing golf. He and his charming wife Eula were regular members at all the annual meetings of the Australian Orthopedic Association and in later years he was welcomed with the warmth, respect and affection accorded to an elder statesman. It is indeed sad that he was not able to be present at the celebration of the Jubilee of the Association that had played such an important part in his life. He was survived by his wife, two daughters and four grandchildren.



Sir William MACEWEN

1848–1924

Sir William Macewen was one of the most versatile of British surgeons. He watched the dawn of antisepsis, grasped its implications and eagerly played a leading part in the romantic expansion of surgery that followed. Many of his widespread contributions were of fundamental importance.

He was born on June 22, 1848, at a house called "Woodend" on the Port Bannatyne side of Skeoch Wood, Isle of Bute. He was youngest of the 12 children of John and Janet (née Stevenson) Macewen. His father was a marine trader doing business in sailing ships plying from Rothesay, but family fortune ebbed and flowed like the tide. At one time he was master of the "Breadalbane," a yacht that ferried Free Church Ministers to and from the islands of the West Coast of Scotland. The boy, brought up in a seafaring atmosphere, felt the call of the sea all his life, returning to it whenever he could conveniently flee the city. Later in life he bought a small estate on the coast of Bute, engaging in experimental farming and yachting.

John Macewen retired to Glasgow in 1860 and William attended the Collegiate School, Garnett Hill. He was a big, bright and lively boy, displaying more prowess in the gymnasium than the classroom; skilful with the single stick. Passing on in 1865 to the university, he arrived at a time when the professors in the faculty of medicine were of unusual distinction: there was Allan Thomson in anatomy, Buchanan in physiology, Gairdner in medicine and Lister in surgery. It was the moment when Lister began tentatively to apply carbolic acid to compound fracture wounds, so that Macewen witnessed in Glasgow Royal Infirmary the birth of an antiseptic system that revolutionized surgery. For 4 years he watched its unfolding, part of which time he was Lister's dresser.

Macewen graduated as Bachelor of Medicine and Master of Surgery in 1869, just after Lister had left Glasgow to succeed Syme as Regius Professor of Surgery at Edinburgh. After qualifying, he served as house surgeon and house physician before becoming for a short period superintendent of Glasgow Fever Hospital at Belvedere, an appointment notable for Macewen's introduction of intubation of the larynx through the mouth instead of by tracheotomy or laryngotomy—a procedure that aroused interest at home and abroad whereby he anticipated O'Dwyer's tubes. In 1871 he was appointed district medical officer, a post that enabled him to gain experience in practical surgery at the parish hospital in Parliamentary Road. Also the same year he became casualty surgeon to the Central Police Division of Glasgow, an office offering him rich experience in emergency surgery and enabling him to contribute many original papers to medical journals, one of which drew attention to a valuable diagnostic sign of alcoholic coma. Macewen had noticed that the pupil of the eye in such a state remained contracted as long as the individual was undisturbed, but under mechanical stimulus such as passive movement of a limb, insufficient to arouse from somnolence, the pupil dilated only to contract again when the stimulus ceased. This sign is sometimes referred to as a "Macewen pupil."

He proceeded to the degree of Doctor of Medicine in 1872 and the following year was elected to the important office of dispensary surgeon to the Western Infirmary, from which he resigned within a year on appointment to a similar post at the Royal Infirmary. In 1874 he was elected into the Fellowship of the Faculty of Physicians and Surgeons of Glasgow. Macewen was now well set for a surgical career. He started consulting practice at 73 Bath Street, in the center of Glasgow. In 1876, when he was only 28 years old, he was promoted full surgeon with charge of wards. From that date to 1892 marks the period of Macewen's greatest productivity.

From the beginning, Macewen was attracted to the study of diseases and injuries of the skeletal system, which in turn compelled him to investi-

gate the physiology and growth of bone, a pursuit he continued until his latter days. During the last century, many children in Glasgow, as in other industrial centers, suffered from the evils of overcrowding, lack of fresh air and faulty diet; a social environment that had its reflex in the prevalence of rickets. Macewen became interested in the disease and the pathology of its deformities; he found that the epiphysial cartilages of the long bones were much increased, the diaphyses softened and prone to bend or increase their natural curve under body weight. He shrewdly suspected some error of diet as the causal agent and recommended cod-liver oil, fresh air and sunlight for these young patients, remarking that poor children in the open Highlands escaped the malady.

When he contemplated the fixed deformities of severe knock-knee or bow-leg, he found that many of them were only capable of correction by operation. The procedure Macewen devised for their cure became the standard operation in surgery; it brought him early worldwide fame.

Macewen's Osteotomy

Subcutaneous osteotomy was introduced by Langenbeck in 1852, when, by cutting the neck of the femur, he corrected a flexion ankylosis of the hip joint. The first subcutaneous osteotomy performed in England was by Stromeyer Little in 1865 at the Royal Orthopedic Hospital when, using a mallet and chisel, he corrected a knock-knee deformity. Richard von Volkmann of Halle, the most powerful advocate of Listerian principles in Germany, was the first to perform osteotomy under antiseptic precautions when, in 1874, he corrected flexion ankylosis of the knee joint. Macewen, after reading von Volkmann's description of the operation, repeated the procedure in 1875 for a similar condition. Two years later he operated for knock-knee, removing some bone from the inner condyle. On May 10, 1878, he performed linear osteotomy for the first time for correction of genu valgum, using a mallet and chisel. The same year, in a paper in the *Lancet* entitled "Antiseptic Osteotomy," he described this classical operation: "When the limb is extended a point is taken slightly above the level of the upper margin of the patella . . . a more fixed point would be the uppermost part of the external border of the patellar articular surface which can easily be felt beneath the skin, a line drawn about half an inch above this would represent the incision in the bone, the chisel being inserted straight across the femur in that line. When the limb is extended a longitudinal incision is made in front of the tendon of the adductor magnus, the middle of the incision corresponding to the transverse line just spoken of. The length of the incision is slightly greater than the largest chisel to be used." Over two-thirds of the thickness of the femur should be incised before fracture of the bone was attempted. Occasionally a wedge of bone was removed.

Macewen soon found that the chisel bevelled on one side was unsuitable for the straight cutting of bone. He therefore devised an instrument, wedge-shaped at the cutting end, which a skilled craftsman made for him, meticulously tempering it for its purpose; of the instrument he said: "The borders of the blade are marked with half inches, the figures being extremely light. The figures point out the depth to which the instrument has penetrated and thus serve as a guide. They are finely polished, not for appearance, but, because the finer the surface the less opportunity will organic matter have of becoming adherent and afterwards decomposing."

In making the osteotome an all-metal polished piece, Macewen departed from the customary bone-handled or wooden-handled surgical instrument, but it indicates that his mind was already moving towards aseptic surgery. The osteotome has so completely captivated the orthopedic surgeon as a bone-cutting instrument that the chisel is entirely neglected and its use forgotten. Yet for the controlled shaving and molding of bone, as in sculpture, the chisel is incomparably the better tool; the osteotome was never intended by its originator for anything but straight fissuring.

Macewen in 1880 published his experiences in a small book, which became a classic, entitled *On Osteotomy: with an enquiry into the aetiology and pathology of knock-knee, bow-leg and other osseous deformities of the lower limbs*. It was translated into several languages. At the International Congress of Medicine held at Copenhagen in 1884, he delivered an address on "Osteotomy for Genu Valgum." He was able to report upon 1,800 osteotomies without septicemia or fatal wound complication. These results were received with acclamation and astonishment. They also helped to vindicate antiseptic principles in surgery for which Lister was pleading.

Transplantation of Bone

Some of the best and most abiding work done by Macewen was in connection with the study of the growth and grafting of bone. John Hunter, after much patience, had wonderfully succeeded in transplanting a human tooth to a cock's comb. Some scanty success was gained by others in the transference of bone from one lower animal to another. But Macewen in 1879 was the first to transplant bone in a human being successfully. It was a great pioneer achievement for at once it opened up a new field in bone surgery. The work was described in a communication to the Royal Society in 1881 entitled "Observations concerning transplantation of bone. Illustrated by a case of inter-human osseous transplantation, whereby over two-thirds of the shaft of a humerus was restored." This paper is a landmark in surgery; it received the enthusiastic commendation of Professor T.H. Huxley, secretary of the Society, who clearly saw the significance of successful human bone grafting.

Macewen carried out many successful bone transplantations after his first classic case. In 1903 he succeeded in restoring the transverse ramus of one half of the jaw by transplantation of bone in a girl 15 years of age who had the horizontal ramus of the lower jaw on one side extirpated for a diseased condition several years previously. He was particularly gratified with the result, for the girl had been restored to her natural good looks from what was a hideous saliva-pouring disfigurement.

The Growth of Bone

Macewen, by his extended researches in the physiology of bone, greatly advanced our knowledge of its growth. He proved that bone was a living tissue capable of transplantation; he believed the graft played a vital part during the process of incorporation. In his operative and experimental work he was impressed by the efficacy of multiple small grafts. They provided a greater surface than the massive graft, each forming a center of ossification that threw out osteoblasts from its whole periphery. Herein he displays a remarkable insight, for this seems to provide an explanation of the quickened osteogenetic power of small medullary bone grafts, which have found such favor in this last decade.

The growth of a long bone occurred at the diaphysis, for he believed that the cartilaginous growth disc belonged to the diaphysis and not to the epiphysis. He showed experimentally that the disc was only concerned with the growth of the shaft. He also believed, contrary to Duhamel and Ollier, that the periosteum had no osteogenetic power; it was purely a limiting membrane giving direction to bone growth but taking no active part in it. He excised bone shafts with the epiphyses in dogs but left the periosteum intact and found that there was no periosteal reproduction of the shafts. In another animal a flap of periosteum was lifted from a radius, detached at its lower end, brought around some muscle fibers and reattached to the intact periosteum, but the strip produced no bone. Again he removed part of a radial shaft and inserted a glass tube between the remaining segments to exclude the periosteum, and found that osseous tissue invaded the tubes from the severed ends. "The potency of the periosteum as a limiting membrane is seen when, in cases of fracture, it is torn up and stretched across the fractured surface of one of the fragments. It here forms an effective barrier against osseous union, the ossific formation being absolutely limited by the periosteum and fibrous union results." On the other hand, stripping or tearing of periosteum in a fracture allows outpouring of osteoblasts from broken surfaces into the gap between the bones and into the surrounding tissues to form binding osseous deposits. Bone deprived of periosteum will live and grow. Growth and reproduction are an inherent property of the osseous elements themselves. The result of 30 years' clinical and experimental investigation was in 1912 published in a book, *The Growth of Bone: Observations in Osteogenesis*. This was followed in 1921 by another work, *The Growth and Shedding of the Antlers of the Deer*. The casting of the antlers in early spring followed by the growth of a new pair provided him with the opportunity of closely studying rapid massive osteogenesis in nature.

Macewen was a dresser to Lister at Glasgow Royal Infirmary and saw the effect of the application of antiseptic principles in the treatment of compound fractures, the impressive lowered mortality and the hastened healing of wounds. From that time onwards he became an ardent supporter of Lister, employing in his practice antiseptic lotions and the carbolic spray for several years. But by the middle 1880s he was already using

instruments forged from a single piece of steel and was boiling his gauze. By 1890 he had installed in the hospital a steam sterilizer for dressings after the Schimmelbusch pattern; was boiling his instruments in a fish kettle, wearing a gown and had discarded the spray. He adopted an aseptic technique. Like Lister, he experimented a great deal with catgut and at last succeeded in making a completely reliable and absorbable suture material, which he continued to make to the end of his life.

Macewen was about the earliest pioneer of cerebrospinal surgery (neurosurgery). In 1879 he operated upon a patient for the relief of subdural hemorrhage with hemiplegia and the same year removed a brain tumor in a girl 14 years of age. Both made a good recovery. Another great advance was his recognition that middle-ear disease was a common cause of cerebral abscess. This induced him to design and perfect an operation for mastoid disease. By 1893 he had gathered such a wide experience of this new branch of surgery that he was able to publish an authoritative work entitled *Pyogenic Infective Disease of the Brain and Spinal Cord*. This work was acclaimed all over the world and became a classic. The same year he published another work, *Atlas on Head Sections*, in the fine production of which he spared neither labor nor expense.

Macewen was also one of the first to open the chest and operate upon its contents. He had some experience in dealing with penetrating wounds of the thorax before he attempted a direct attack on the lungs. In 1895 he was asked to see a patient who was desperately ill, emaciated and toxic from extensive active tuberculous disease of the left lung with secondary pyogenic infection and abscess formation. He performed total lobectomy followed later by thoracoplasty. The man recovered his health completely and afterwards was actively engaged in earning his livelihood for many years.

In 1892 Macewen became Regius Professor of Surgery at Glasgow University, a post that entailed a good deal of teaching and transference of his surgical work to the Western Infirmary. He held the chair until his death. In 1895 he was elected a Fellow of the Royal Society. He was also elected an Honorary Fellow of the Royal Colleges of Surgeons of England and of Ireland; several universities conferred honorary degrees upon him, and he received recognition from leading surgical societies abroad. Soon after the outbreak of war in 1914, he was commissioned as Surgeon-General in Scotland, serving in the Navy with the rank of Surgeon Rear-Admiral. In addition to the onerous duties of this post, he threw himself with great energy into organizing the Princess Louise Hospital for Limbless Soldiers and Sailors at Erskine, the counterpart in Scotland of Roehampton. In 1922 he was elected President of the British Medical Association on its visit to Glasgow in that year. In 1923 he was elected President of the International Society of Surgeons and later the same year experienced something of a triumphal tour in New Zealand and Australia when he went out to the Australasian Medical Congress at Melbourne. He received the honor of Knighthood in 1902, was made a Companion of the Bath in 1917 and was appointed Surgeon to the King in Scotland in 1909. He died of pneumonia on March 22, 1924. He married in 1873 Mary Watson, daughter of Hugh Allan of Crosshill, Glasgow, and had three sons and three daughters.

Macewen was a man of independent outlook, relying more on his own experience and observation than on the accepted teaching of others. His personality was forceful; he was possessed of immense energy and driving power, prosecuting his work as a scientific surgeon with consuming zeal. His individualism and temperament prevented him from easily cooperating with others in a team; he was entirely happy working alone and work was the breath of his life. He was tall, had a commanding figure and was gifted with a clear, resonant voice, all of which enabled him to hold and often sway any audience he addressed. He was born at a fortunate hour and took full advantage of the opportunities that were presented, turning all his talents to such development of surgery as Lister had made possible. William Macewen's contributions were so varied and of such a quality that he must be regarded as one of the greatest surgeons of all time.

Ian MACNAB

1921–1992

Ian Macnab was the son of a Scottish shipbuilder who was living in India. When Ian was 5 years old, his parents sent him home to Britain to receive an education in an English boarding school. He attended medical school at the University of Birmingham, graduating with first-class honors. After a residency in general and orthopedic surgery, he served in the Royal Army Medical Corps, from 1945 to 1947. He then completed his orthopedic training at the Royal National Orthopedic Hospital in London, England. He became interested in low-back disability and, at the recommendation of Sir Herbert Seddon, went to Toronto in 1950, to study the pathogenesis of low-back pain, as a research fellow at the Bunting Institute, in conjunction with Dr. R.I. Harris.

Ian's outstanding contributions as researcher, teacher, and orthopedic surgeon led to his being asked, by the Chairman of the University, Dr. Frederick P. Dewar, to establish a university orthopedic service at the Toronto General Hospital. Ian acquired a passionate devotion and pride for his adopted country, for Toronto, and for its orthopedic service. A very close personal relationship developed between Ian and Dr. Dewar and his other Toronto colleagues. He was appointed Professor of Orthopedic Surgery at the University of Toronto and Chief of the Orthopedic Service at the Wellesley Hospital.

His range of academic interests truly made him a Renaissance surgeon—"a man for all seasons" in orthopedic surgery. Although he was internationally renowned as a spine surgeon, his most famous contributions are probably his studies on the pathogenesis of low-back pain, which led to a greater understanding of what many had previously diagnosed as lumbago. He also had expertise in the areas of hallux rigidus, patellar dislocation, opponens transfer, whiplash injuries, pathological changes in the neurocentral joints of the cervical spine, lesions of the menisci, anterior tibial compartment syndrome, the effect on osteogenesis of alternating currents in bone, blood supply of the vertebral bodies and the femoral head, the reaction of body tissues to ceramics, the microcirculation of the rotator cuff, and shoulder arthroplasty. He was awarded the Hunterian Lectureship of the Royal College of Surgeons of England for his studies on the rotator cuff.

As a teacher, Ian was unsurpassed. To North Americans, his knowledge and expertise, combined with his command of the English language and his Churchillian oratory, made him one of the most sought-after orthopedic lecturers and visiting professors. His ability to impart a message was exemplified in his classic Presidential Address, entitled "Seek and Ye Shall Find," to the Canadian Orthopedic Association in 1977, in which he stated: "You do not have to be a trained investigator to discover. You must, however, preserve your sense of wonder, your ability to be astonished and you must be sure that your brain remains connected to your retina so that you will not only see, but you will also perceive. . . . Research is just not a laboratory activity. More importantly, it is an attitude of mind. Every surgeon must recognize his own potential in this regard and not be content to leave advances to others. Seek and ye shall find."

As a testimonial and legacy to Ian's outstanding influence as a teacher and his ability to shape the lives of others, a dynamic group of 40 of his orthopedic disciples founded the Macnab Club, which looked to Ian and his wife, Reta, as guiding patrons. These practitioners, who were postgraduate fellows with Ian, are now located in 22 orthopedic centers and seven countries.

Although Ian's scientific contributions have made a lasting mark in orthopedics, for those who knew him personally his personal traits are what will be most cherished. His warm friendship, loyalty, tremendous sense of humor, ability to stimulate others, appreciation of nature, and enjoyment of his family and their good times together will remain a living memory. His wit and teachings, in both the spoken and written word, will be passed on by his friends, colleagues,

fellows, and residents to future orthopedic surgeons as a viable continuation of his presence.

Ian Macnab died on November 25,1992, at the Toronto General Hospital, after a brief illness. He leaves behind his wife, who met Ian when she was a charge nurse in the orthopedic operating room at the Toronto General Hospital, and his three children.

Otto MADELUNG

1846–1926

Madelung was an abdominal surgeon—he flourished during the time that surgery was beginning to have something to offer the patient with abdominal disease. His orthopedic contributions, though they caused his name to decorate textbooks, were slight.

He was born in Gotha, the son of a merchant, and he studied at Bonn and Tubingen. After serving in the Franco-Prussian war of 1871, he settled in Bonn, and during this time he wrote his paper on wrist deformity. He became assistant professor of surgery at Bonn in 1881, then at Rostock, before becoming professor at Strasburg in 1894, where he was the youngest member of the medical faculty. He built up the hospital at Strasburg along German lines and continued to work there until the city was recovered by the French at the end of the First World War. Then all the German professors were replaced by French and after a period under house arrest he retired to Gottingen.

Apart from his work on intestinal resections, intestinal typhoid, obstruction and so on, Madelung was one of the first advocates of early laparotomy for abdominal injuries. In 1909 he described arthrotomy of the shoulder from behind. His description of deformity at the wrist was not original, and only a little more complete than descriptions by Dupuytren and R.W. Smith, which had appeared many years previously.

It is difficult to give much impression of his personality—someone described him as a "serious and conscientious man with powerful will" and this rather stern picture is supported by one of his sayings: "Every clinical lesson must be prepared and conducted in such a way that every student who contemplates missing the class must feel that he would miss something important."

Madelung regarded the wrist deformity as a defect of growth of the wrist joint. It was not due to trauma or infection. Heavy work by young people produced more pressure on the anterior part of the distal radial epiphysis than the posterior part. In those with "primary weakness of bone" this degree of pressure may cause the anterior part of the epiphysis to stop growing. As a result, the lower end of the radius comes to be angulated forwards. The carpal bones are also compressed and show changes.

Treatment was not successful. Surgically replaced hands relapsed. However, Madelung noted that the pin disappeared after time, even when the subluxation was gross, and that the capacity for work was not impaired.

Paul Budd MAGNUSON

1884–1968

Paul Magnuson was born June 14, 1884, in Merrian, Minnesota, at that time a suburb of St. Paul, the son of a Swedish father and a mother of Scottish and English descent. A happy childhood with his brothers and two sisters in this small town developed a sound set of moral and ethical values, which he followed throughout his life.

He entered the University of Minnesota in 1903 and 2 years later was admitted to the second year of medicine at the University of Pennsylvania.

Medicine was chosen as a career when, at the age of 7, he assisted the family doctor in the emergency care of his mother. The event so impressed young Magnuson that from then on there was no question in his mind about his future as a doctor.

While in medical school, Dr. Magnuson became interested in the problem of unequal leg lengths, inspired by the Professor of Orthopedic Surgery, Dr. DeForest Willard. Working in the laboratory, he devised an electrically powered circular bone saw mounted on a flexible drive shaft to facilitate the bone-lengthening procedure he envisioned. This saw was a forerunner of the many electrically powered surgical instruments used in orthopedic surgery today.

The reults of the leg-lengthening experiment, carried out on dogs, established the feasibility of such a procedure, which he later carried out successfully on his patients. The result of this pioneer research work was presented at the first annual meeting of the Under-Graduate Medical Association of the University of Pennsylvania on April 8, 1908, as an honor upon his graduation and was published as his first paper in the University of Pennsylvania Medical Bulletin of that date. He was elected, at that time, to the national honorary scientific society, Sigma Xi. This early experimental work established a pattern for clinical investigation, which he carried on throughout his years of practice and teaching.

In 1909, following graduation from medical school, Dr. Magnuson became an assistant to the famous Chicago surgeon, Dr. John B. Murphy. He served with Dr. Murphy full-time for a year, then established his own practice in the stockyards area of Chicago. He continued to assist Dr. Murphy part-time for another year, then worked with Dr. William E. Schroeder, Chief of Staff at the Chicago Wesley Memorial Hospital, for several years while conducting his own growing practice. Dr. Magnuson's work in the stockyards was primarily fractures and trauma suffered by the workmen of the stockyards and the railroads serving the area.

His first office was located over a saloon on Halsted Street in the heart of the slaughter-house area of Chicago. Because of his sincere concern for his patients and an uncompromising desire for excellence in their care, he quickly gained a reputation for skill and integrity with the workmen and unions as well as with the management of industry. Because of this reputation he was honored by appointment as the first medical director for the newly formed Industrial Commission of the State of Illinois in 1916.

Shortly after establishing his practice in Chicago, he married his childhood sweetheart, Alice L. Hasson. A year later, a son, Paul Jr., was born, needless to say, the apple of his father's eye. Years later, he was to take equal pride and enjoyment from his three grandchildren, the children of Paul Jr.

In 1912, with Dr. Philip Lewin and others, Dr. Magnuson helped found the Clinical Orthopedic Society. On the 50th anniversary of this society in October 1962, Dr. Magnuson was honored by this group as a founding member.

From 1912 to 1917, Dr. Magnuson was active in his practice, joining first the faculty of Rush Medical College as a teacher, and later transferring to the faculty of Northwestern University Medical School. During these years he became chief surgeon for the Chicago and Alton and the Chicago Junction Railroad Companies.

When the United States entered World War I, Dr. Magnuson was called to Washington, DC, to serve as an assistant to Dr. Elliott Brackett, Chief of the Orthopedic Division in the Surgeon-General's office. Here he helped to organize the orthopedic services of the army. He entered service in 1917 as a Captain, advancing to Major at the close of the war in 1918.

Returning to Chicago, he resumed his practice and teaching duties at Northwestern University. Because of his interest in the problems of rehabilitation, he organized the first formal physical therapy department at Wesley Memorial Hospital. He induced Dr. Stanley Coulter, an associate, to turn to the development of the first physical medicine department to be established in the country. Dr. Coulter became the early leader in this new specialty and became the first Professor of Physical Medicine at Northwestern University Medical School.

In 1930, Dr. Magnuson suffered the tragic loss of his beloved wife Alice. For many years this grand lady had supported and encouraged Dr. Magnuson in his career, although she was an invalid from crippling rheumatic heart disease. After her death, the doctor buried himself in his work.

From this time through 1945, Dr. Magnuson spent his most active years in clinical medicine. He became Professor of Surgery and head of the Department of Bone and Joint Surgery at Northwestern. He helped found the American Board of Surgery. He wrote the textbook, *Fractures*, which brought forth his fundamental concepts of fracture treatment. He developed his well-known operations for correction of recurrent dislocation of the shoulder and debridement of the knee joint, as well as lesser-known works on arthroplasty of the hip, the etiology of back pain, and bone grafting. During this time he met and married Laura Thompson, whom he loved and cherished throughout the remainder of his life.

From 1941 through 1946, he served as civilian consultant to the Surgeon-General of the US Army.

In 1945, at the close of World War II, he was again summoned to Washington, DC, to reorganize the Medical Department of the Veterans Administration under the direction of General Paul R. Hanley and General Omar Bradley. It was Dr. Magnuson's plan to place the Veterans Administration hospitals in close cooperation with the medical schools of the country, which led to the formation of the well-known Deans' Committees. Under his direction, the Veterans hospitals were staffed by medical school faculties, residency programs were established, and research projects started, which vastly improved the quality of care received by the veterans of World War II.

Dr. Magnuson served as Chief Medical Director of the Veterans Administration from 1948 through 1951. During this period, Maggie, as he was affectionately called by his colleagues, confirmed his reputation as a fighter for the best medical care possible for sick people, in this instance the veterans of World War II. This reputation was amply tested in cutting through the customary bureaucratic red tape and pork barrel politics prevalent at the time. His insistence on building new hospitals adjacent to medical schools, where they could be properly staffed, was a foreign concept in some circles of government. Eventually this fight with bureaucracy led to his dismissal as Medical Director of the Veterans Administration. His firm stand on eliminating politics in the construction of Veterans Administration facilities was subsequently confirmed by an investigation by a committee of the United States Senate. His struggle to obtain the best medical care for the veterans of this country is dramatically told in his autobiography *Ring the Night Bell*, published in 1960.

Having served as co-chairman of the Skeletal Systems Committee of the National Research Council, he was vitally interested in the problem of the amputee. Through his efforts, much of the research work on prosthetic devices was instituted through the Veterans Administration. His work in this field helped to establish standards and methods that set the pattern for the prosthetics industry.

In 1951, following the termination of his service with the Veterans Administration, President Truman appointed Dr. Magnuson Chairman of the Commission on the Health Needs of the Nation. In a five-volume report this Commission, in 1952, outlined many of the potential problems facing American medicine. Dr. Magnuson's trials and tribulations with organized medicine in carrying out this study are documented in his autobiography.

In 1952, upon completion of his work with the Commission on the Health Needs of the Nation, he returned to Chicago and began the organization for founding the Rehabilitation Institute of Chicago. He had long held a dream for a rehabilitation centre in the mid-west, which would reflect his concept of rehabilitation of sick

persons to "the fullest physical, mental, vocational, social, and economic usefulness of which they are capable." Through his efforts funds were raised and a board of directors selected, which established the Rehabilitation Institute of Chicago. As founder and first president of the Institute, his dream of a complete rehabilitation centre in the mid-west was realized when Northwestern University accepted the Institute as a part of the University and took over management of this unique facility.

For 50 years of service to medicine Dr. Magnuson received many honors. He was presented with three honorary degrees, a DSc from Duke University and the LLD degrees from Baylor University and Western Reserve University.

He was honorary member of the British Orthopedic Association; a Fellow of the American College of Surgeons, serving as secretary of the Board of Regents; a member of the American Association for the Surgery of Trauma, serving as president in 1949; and a founding member of the American Board of Surgery and the Clinical Orthopedic Society. He also was a Diplomat of the American Board of Orthopedic Surgery and a member of the American Academy of Orthopedic Surgeons, the American Orthopedic Association, the American Surgical Association, the Southern Surgical Association, the Western Surgical Association, the Association of Industrial Surgeons, the International Society of Orthopedics and Traumatology, the International Society of Surgery, the Chicago Surgical Society, the Chicago Orthopedic Society, the Chicago Medical Society, the Illinois State Medical Society, the American Medical Association, the Institute of Medicine of Chicago, and Sigma Xi. He was a member of the Metropolitan Club, Washington, DC, the Century Association, the Brook of New York and Racquet Clubs.

In his presidential address, "Some Wise Men in American Surgery," delivered to the 88th annual meeting of the American Surgical Association, April 17–19, 1968, Dr. William P. Longmire, Jr., paid tribute to Dr. Paul B. Magnuson's contributions to American medicine. In the closing paragraph of his address, Dr. Longmire stated: "Let us be ever mindful of the contributions of certain wise men of American surgery, such as Halsted, Bevan, Archibald, the Mayos, and Magnuson, for each has introduced a unique concept to enhance the delivery of our professional care."

On November 5, 1968, Paul Budd Magnuson, MD died at George Washington University Hospital, Washington, DC, of a cerebral vascular accident at the age of 84.

Joseph François MALGAIGNE

1806–1865

Securité–Simplicité–Celerité

Some surgeons are remembered as great technicians, others, as great teachers. Medical folklore is full of tales of surgeons remembered because of, or in spite of, their eccentricities. It is an unusual surgeon, however, whose name lives on because of his literary genius as an author and editor. Joseph François Malgaigne[3] was such a man. An experienced surgeon, he was actively engaged in the practice of his profession throughout his life. A scholar, he searched out original sources for their meaning without relying upon translators and compilers. A gifted teacher, he was accustomed to marshalling minutiae into concise and logical patterns. Blessed with these talents, he used them efficiently, with the result that the surgical literature of his time was enriched.

The *Traité des Fractures et des Luxations* appeared in 1847 as a comprehensive two-volume work with a sumptuous supplementary atlas of plates. The first, and smaller volume, deals with fractures[2] and the second, larger volume, deals with dislocations. It is the finest and most complete work on fractures to be published up to that time, far exceeding Astley Cooper's *Treatise on*

Dislocations and Fractures of the Joints both in scope and execution.

Little escaped his observing eye or his inquiring mind. He describes a patient with an ischaemic contracture of the forearm due to a dressing too tightly applied, 34 years before Volkmann. He was led to investigate the gas produced during gas gangrene infection; managed to collect a quantity; found that it burned with a blue flame; and identified it as carburetted hydrogen. He was imaginative in his approach to technical problems such as maintaining the fragments of a displaced transverse fracture of the patella in apposition. For this, he devised an apparatus with which two sets of hooks could be inserted subcutaneously into the fragments and, drawn together by a threaded screw, approximate the fragments, i.e. Malgaigne's hooks.

Joseph François Malgaigne was born February 14, 1806, at Charmes, in the valley the Moselle, where his father, an old army surgeon, was the local health officer. At what to us may seem the tender age of 15, he was sent to Nancy to begin his medical education. At 19, he was qualified as an *officer de santé*, or health officer. Hoping to continue his education, Malgaigne left for Paris without the support of his family and almost completely without funds. His early years in Paris were marred by hardship, and occasionally by real privation.

In the fall of 1830 the Poles revolted from their Russian masters and appealed to the new French government for help. Malgaigne organized a volunteer hospital unit consisting of nine surgeons and other personnel, and led it in action in support of the Polish army. He distinguished himself under fire during several engagements.

In 1840 he founded the *Journal de Chirurgie*, and in 1847 became chief editor of the *Revue medico-chirurgical de Paris*. It is as an editor that Malgaigne exerted his greatest influence upon his contemporaries. He was a staunch advocate of the statistical approach to the study of medical problems, and encouraged animal experimentation. Young men and new ideas always gained a hearing on the pages of his journals.

The medical journals of Paris at this time were a far cry from the staid journals of today. Controversy and invective, "yellow journalism," was commonplace. Such an exchange, between the former associates, Guérin and Malgaigne, led to a famous law suit in 1843 when Guérin sued for defamation of character. The basic point at issue was an important one. Can the results of clinical investigations and laboratory experiments that demonstrate the ineffectiveness of methods of treatment strongly advocated by various individuals be published with impunity? In the uproar created by the suit among the physicians, Malgaigne had the greatest support as an advocate of freedom of inquiry and freedom to publish opinions based on investigations. After a long public trial in which Malgaigne gave an impassioned speech in his own defence, the case against him was dismissed.

In his role as a medical editor, Malgaigne kept in close touch with new developments throughout the world. He not only read about them, he acted. On January 12, 1847, at a meeting of the *Academie de Medicine*, less than 3 months after Morton's success in Boston, Malgaigne announced that he had "etherized" three patients with great success; one patient, incompletely, and one, without effect. Velpeau had heard of ether inhalation anesthesia, but had not yet tried it. Malgaigne had administered the ether intranasally with an apparatus of his own design. Not only was he the first to use ether anesthesia in France, but he was also largely responsible for its rapid adoption throughout the country.

In 1835 Malgaigne joined the Faculty of Medicine and became a surgeon of the central bureau of hospitals, serving in turn at Bicêtre, Saint-Louis and la Charité. He lectured on, and later published a book on surgical anatomy. In 1850 he succeeded to the chair of Professor of Operative Surgery, a position he held until his death in 1865.

> He is a mild man, quite stiff in figure and movements, but possessing good manners, and an intelligent expressive countenance. He operates well and is a thorough master of surgery. His 'courage camarade' so frequently addressed to patients on whom he is operating, being pronounced in a military tone, and with a slight but pleasant accent, produces a very agreeable impression on those to whom it is addressed, and encourages them to bear with greater patience the suffering to which they are necessarily subjected.[4]

Malgaigne's reputation today rests chiefly upon two of his books: *Traité des Fractures et des Luxations,* and *Oeuvres Completes d'Ambroise Paré revues et collationnées sur toutes les éditions aver les variantes*. Having already discussed his great work on fractures and dislocations, a brief comment on the other is in order.

Malgaigne's edition of the complete works of Ambroise Paré was an attempt to produce, as Littré had done for the works of Hippocrates, a

definitive edition. In this he succeeded admirably. It was a task of great complexity, for Paré had had a long life as a writer (1545–1590) and during this time had not only discussed a tremendous variety of subjects, but had modified and changed his opinions and doctrines continually. The entire body of Paré's writing is arranged and ordered with great skill. It is possible to follow the development of Paré's ideas on any subject to their final form. A complete subject index multiplies the value of the collection.

A considerable portion of the first volume is devoted to an introduction, which consists of a history of surgery in western Europe from the sixth to the sixteenth century, ending with a biography of Paré and a discussion of his work. This introduction is one of the finest short accounts of the history of surgery extant. It is unfortunate that it was not published separately, as it stands in the shadow of the immensity of Paré's achievement, and for this reason has not received the attention that is its due. It has recently become available in English translation.[1]

John Shaw Billings, American surgeon and historian, epitomizes the career of Malgaigne:

> Malgaigne was the greatest surgical historian and critic the world has yet seen, a brilliant speaker and writer, whose native genius, joined to incessant labour, brought about a new mode of judging of the merits of surgical procedures—the mode of statistical comparison joined to experiment. He was not a great operator, and although he made some improvement in the art, such as his hooks for the treatment of fractures of the patella, his suggestion of suprathyroid, laryngotomy, etc., these are of small importance as compared with his work of exploding errors, exposing fallacies in reasoning, and bringing to bear upon the work of the present day the light of the experience of the past, of which his treatise on fractures and dislocations affords many excellent examples.

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John L. MARSHALL

1936–1980

John L. Marshall died in a light-plane crash on February 19, 1980. He had just left the Atlanta, Georgia, meeting of the American Academy of Orthopedic Surgeons and was en route to Lake Placid, New York, for the Winter Olympics as consultant to the US ski team. Although an accomplished pilot, he was a passenger in the plane. He was 43 years old and at the height of a remarkably distinguished and productive career.

Dr. Marshall was Director of Sports Medicine at the Hospital for Special Surgery in New York City, having founded the Sports Medicine Clinic there in 1971. At the time of his death he had become a world-renowned figure in orthopedics and sports medicine. His patients included many famous professional athletes as well as innumerable New York City public-school athletes who crowded his weekly clinic. At the Hospital for Special Surgery he was an attending surgeon in the Department of Orthopedics and Director of the Laboratory of Comparative Orthopedics and Experimental Surgery. He also held appointments in the Departments of Anatomy and Surgery at Cornell University Medical College. As such, he was intimately involved in undergraduate and graduate medical teaching and research. He was an active Fellow in the American Academy of Orthopedic Surgeons and the American College of Surgeons and was a member of numerous other professional organizations, including the American Orthopedic Society for Sports Medicine, the American College of Sports Medicine,

and the Orthopedic Research Society. He was widely known as team physician for the New York Giants professional football club and a consultant for the New Jersey Nets basketball team, the New York City Public School Athletic League, and the Cornell University Athletic Department.

To his colleagues, Dr. Marshall's incredible success seemed to follow from his keen intellect, limitless energy, and infectious enthusiasm. He was born in Schenectady, New York, on June 16, 1936. He graduated from Cornell University in 1956, excelling academically and athletically in basketball, sailing, skiing, and polo. In 1960, he graduated from the Cornell College of Veterinary Medicine and entered private practice, specializing in thoroughbred horses. His interest in high-performance athletics never waned. It seemed natural that orthopedics would be his field. In 1961 he entered Albany Medical College, receiving his MD degree in 1965. In the shadow of Dr. Crawford Campbell, he developed an interest in orthopedic research, to which he devoted a major portion of his future career. He won the Student Research Award in 1963 for a paper on osteocartilaginous loose bodies. After a surgical internship at Tufts–New England Medical Center in Boston, Massachusetts, Dr. Marshall came to the Hospital for Special Surgery as a Research Fellow in orthopedics. In 1971 he completed the residency program and was named an American Orthopedic Association North American Traveling Fellow. He remained on the staff of the Hospital for Special Surgery until his death.

Dr. Marshall's major area of professional interest was the knee. His earliest papers in the veterinary and human medical literature dealt with articular cartilage and the unstable joint. He saw the anterior cruciate deficient knee as a model for instability and arthritis in the experimental animal and a major clinical problem in human athletes. His studies concerned the anatomy, repair, and reconstruction of knee ligaments. He had personally dissected hundreds of cadaver knees and constantly challenged his residents and fellows to test new and old concepts of anatomy and surgery in the laboratory. He was an exacting scientist who presented papers annually at the meetings of the Orthopedic Research Society, strongly believing that sports medicine should rest on the same research and basic-science foundation as other orthopedic specialties. By his teaching of anatomy to undergraduates, he helped to interest many a promising student in an orthopedic career. As a teacher, he was exceedingly generous with his time and private operative cases. As an author, he was particular that homework be done and credit be given to other workers in the field. Many of his more than 65 scientific papers appeared in *The Journal of Bone and Joint Surgery.*

In Atlanta, a few days before his death, Dr. Marshall had his usual several papers on the Academy program, but he also participated in panel discussions as a recognized expert on the anterior cruciate ligament. Many of his papers were yet to be published, but already his work was cited prominently in major textbooks. For many years his concepts regarding cruciate ligament injuries were hardly fashionable or accepted. That he lived less than a decade after completing his residency, yet saw his work recognized, is a testimony to his courage, scholarship, and persistent self-criticism in the laboratory and operating room.

John's enthusiasm and energy extended outside the hospital. He was a fine athlete himself, an avid skier, and an accomplished tennis player and runner. He trained regularly with many of his patient athletes, and could run circles around most of his residents and fellows on the tennis court.

Dr. Marshall was blessed with a devoted family and was survived by his lovely wife Jan and their two children.

Antonius MATHIJSEN

1805–1878

Antonius Mathijsen was born on September 4, 1805, at Budel, a small village in North Brabant, Holland, the son of Dr. Ludovicus Hermanus Mathijsen and Petronella Bogaers. He had seven brothers, of whom three likewise were physicians, and two sisters. His father thought that Antonius should become a military surgeon; the young man was first placed in the military hospital at Brussels, later in Maastricht, and finally at the large government hospital at Utrecht. He received his commission in the army on July 14, 1828, and the degree of Doctor of Medicine from the University of Giessen in 1837.

In 1831, Dr Mathijsen took part in the 10-day campaign in Belgium, at Ypres and Breda, and was honorably mentioned and decorated. In 1851, while stationed at the garrison in Haarlem, he worked at his plans for a plaster splint that would

maintain immobilization of fractures of bone. Other methods had been tried by other men, but the results had not been good. Mathijsen experimented until he found a new and more efficient method of making a plaster splint.

Mathijsen wrote a monograph on a new method of application of the plaster in fracture, which was published in May 1852. In the introduction to this volume he stated that he had tried, above all, to find a good method of dressing the wounded on the battlefield. He pointed out that the majority of these patients, injured by firearms, had compound fractures that required special treatment; and it was his intention to find an immobilizing bandage that would permit safe transportation of the patient. As he conceived them, the requirements of the bandage were: (1) that it could be conveniently applied at once; (2) that it become hard in a few minutes; (3) that it be so applied that the surgeon would have access to the wound; (4) that it be adaptable to the circumference and shape of the extremity; (5) that it be of such consistency that it would not be damaged by suppuration or humidity; and (6) that it be not too heavy nor too expensive.

Mathijsen's plaster bandage was constructed after the principles of Seutin's starch bandage. It proved to be economical and more practical than others used previously. He cut pieces of double-folded unbleached cotton or linen to fit the part to be immobilized; then the pieces were fixed and held in position by woolen thread or pins. The dry plaster, which was spread between the layers, remained two finger breadth widths within the edges of the cloth. The extremity was then placed on the bandage, which was moistened with water. Next, the edges of the bandage were pulled over, so that they overlapped one another, and they were held by pins. When an opening in the bandage was necessary, a piece of cotton wool, the size of the desired opening, was placed between the compresses, so that this area remained free of plaster. This type of dressing afforded rest to the injured parts by immobilization. In cases in which it was found necessary to enlarge the cast, enlargement could be achieved by the application of cotton bandages, four inches wide, rubbed with plaster and moistened.

Mathijsen's own description of the plaster bandage was the first accurate one. In 1854, in a French treatise, he gave a report of his results after the application of the plaster bandage, and he also mentioned various cases in which the patients had been treated by other surgeons. Moreover, he wrote to the Royal Academy of Belgium that the plaster bandage was his invention, and that it was not the result of collaboration on the part of several surgeons. In 1857, he described a practical pair of scissors for use in working with plaster.

By 1856, the value of the treatment, by means of the plaster bandage, had become appreciated. The method was commended in the periodicals of the Society of Surgery and Obstetrics, in Amsterdam, and of the Society of Physicians, in Vienna (by Dr. C.J. Cessnor). In 1876, Mathijsen was requested by one of his friends, Dr. M.W.C. Gori, to present his invention of fixation by means of the plaster bandage at the Centennial Exhibition in Philadelphia, which he did.

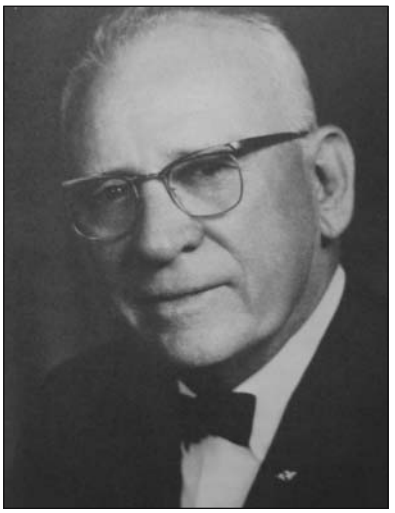
Many honors ware bestowed upon Dr. Mathijsen. He was made Knight of the Order of the Netherlands, Lion of the Oak Crown of Luxembourg, Major Surgeon of the Dutch Army, and member of the medical societies of Amsterdam, Hoorn, Utrecht, Brussels, Bonn, Halle, Vienna, Neuchâtel, and Zurich.

When we consider the significance of this work, we must also bear in mind the status of treatment of wounds and diseases of the extremities in the early 1800s. Prior to Mathijsen's invention, the treatment of a broken or wounded extremity was woefully inadequate, and such treatment often led to serious disability or to the loss of limb and life.

In 1870, at a time when Mathijsen's method of treatment of patients was not generally known, Zola in his famous book, *La Debâcle*, described the appalling inadequacy of the treatment of the wounded. The high mortality rate was markedly lessened by the discoveries of Pasteur, Lister and Mathijsen. Dr. Mathijsen died on June 14, 1878, at Hamont, Belgium, where he is buried.[1]

Reference

1. Mathijsen, Dr. Antonius (1878) Obituary. Nederlandsch Milit Gencesk Arch 2:392–405



Earl D. McBRIDE

1891–1975

Earl McBride was born in 1891, grew up in small towns in Kansas and Oklahoma, and graduated from Epworth University (now Oklahoma City University) in 1910. Influenced by impressive childhood contacts with family doctors, he decided to study medicine. He graduated from Oklahoma University in 1912 with 2 years of credit in medicine and enrolled in Columbia University, New York City, where he received his MD degree 2 years later. He returned home to Oklahoma and served as a small-town general practitioner in Navina and then Ralston. This was during World War I, and for 2 years he worked in the American Women's Red Cross Hospital in South Devon, England.

Returning to Oklahoma City after his discharge, he unexpectedly had the opportunity to buy the equipment of an orthopedic surgeon who had died suddenly of the influenza epidemic during the war. He recognized that he needed additional training in spite of his army experience with trauma, and therefore spent a year in New York City at the Hospital for the Ruptured and Crippled (now the Hospital for Special Surgery). When McBride returned to Oklahoma City in 1920, virtually no one had ever heard of this special field of medicine called "orthopedic surgery." In addition, that area of the country was a center for osteopathy, and there was confusion between the two terms. Thus McBride soon replaced the term "orthopedic surgeon" on his shingle with "bone and joint surgery." Initially his office was in a residential structure that had four rooms upstairs. He kept his patients overnight or longer and a neighbor prepared food for them. He thus renamed the office "The McBride Clinic." The practice flourished, and in 1939 a new 30-bed facility was established in Oklahoma City. The hospital had been known as the Reconstruction Hospital but this too was a confusing term, so the name was officially changed to the "Bone and Joint Hospital" at that time and has remained the same since. The clinic grew and by 1986 it was internationally known, with 15 doctors and 450 other employees specializing in orthopedics, arthritis, industrial injuries, and sports medicine. McBride remained dedicated to the continuing care of musculoskeletal problems throughout his life.

In 1936 the first edition of the book by McBride, entitled *Disability Evaluation*, was published by J.B. Lippincott. This volume underwent six editions, the last being in 1963. It presented the first attempt by an orthopedic surgeon systematically to evaluate human functional disability. It grappled with anatomic and physiologic tissue damage, restrictions on working conditions, and psychological issues. It even attempted to assess functional deficiencies involving coordination, strength, endurance, etc. The book proposed a rating system that tried to separate disabling functional deficiencies from disabling physical impairments. The 550 pages of the first edition represented a significant and extensive undertaking in the area of the disabled worker and the workplace.

Unfortunately, this initial effort was so complex that it did not find much acceptance in the medical community. None of the members of the orthopedic group that McBride founded used the system. Personal communication with senior members of the group revealed that McBride himself did not use his own system in his later years. He relied instead on the guides in *Evaluation of Permanent Impairment*, published by the American Medical Association. He was a member of the orthopedic committee that set up those guidelines. This original text is the starting point of an ongoing effort to blend the science and art of medicine in the assessment of the musculoskeletal system. His poem, *The Art of Medicine*, is an appropriate epilogue to this effort.

John Laing McDONALD

1895–1967

The son of Allan McDonald and Jessie Atkin, he was brought up near Dresden, Ontario, on a farm granted by the Crown to his paternal grandfather. After completing his preliminary education in Dresden, he entered the University of Toronto Medical School in 1911 and graduated with honors in 1916. With most of his class he enlisted immediately in the Canadian Army Medical Corps, serving with distinction in Great Britain and Salonika. He returned to Toronto in 1918 with the rank of Captain and remained in the service until 1920, attached to Christie Street Veterans' Hospital.

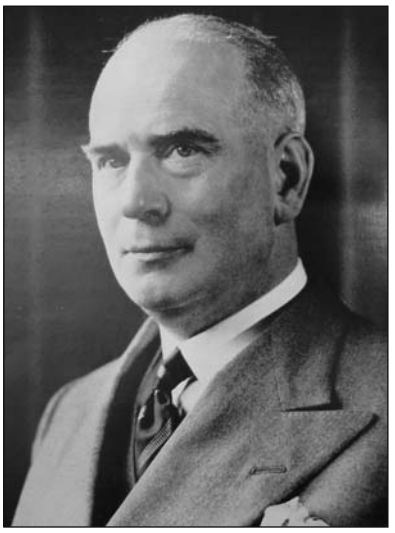
As an undergraduate he had preferred surgery to medicine, and this instinct was encouraged while he was at Christie Street Hospital by the late W.E. Gallie. After leaving the army he took surgical training at the Middlesex Hospital under Gordon-Taylor, at the Mayo Clinic, and at the Hospital for Sick Children in Toronto. He joined the staff of the last institution in 1923 and resigned in 1946 to become chief of staff of the Wellesley Hospital, then newly recognized by the University of Toronto as an affiliated teaching institution. When he retired from his teaching appointment in 1955 he had attained the rank of Associate Professor of Surgery in the University of Toronto.

In common with his colleagues at the Children's Hospital, he practiced general surgery but with a strong orthopedic bias, and it was not until his move to the Wellesley Hospital that he confined himself to orthopedic problems alone. Early in his career he became orthopedic consultant to the National Board of the Shriners' Hospitals. He particularly enjoyed this association and remained actively interested in it until his final illness. From 1942 to 1949 he acted as surgical consultant to the Workmen's Compensation Board of Ontario. This appointment, which reflected his keen interest in reconstructive surgery, began when Ontario's surgical ranks were depleted because of the war and imposed a heavy additional burden on him.

Dr. McDonald was a master of Lane's "no touch" technique and was meticulous sometimes to the point of exasperation from the viewpoint of his assistants. But none who had the privilege of training under him suffered from the experience, for he had much to teach of the craft of surgery. His publications are few, but his true quality is reflected by the vast family of patients who knew him first when they were children and who continued to consult him as adults until illness obliged him to close his practice in 1966.

He was a devoted supporter of Canadian orthopedic surgery from its fledgling days. While president of the Canadian Orthopedic Association in 1955, he put forward the concept that the members should support a trust fund, the income from which was to be used to support orthopedic training and research in Canada. This trust, now called the Canadian Orthopedic Foundation, has become of more than modest size and is used to support, among other things, the biennial visits of the Traveling Fellows to Canada.

John Laing McDonald died December 10, 1967, 11 months after a cerebrovascular accident.



Bryan Leslie McFARLAND

1900–1963

Professor Bryan McFarland, director of orthopedic studies and professor of orthopedic surgery in the University of Liverpool, past president of the British Orthopedic Association, vice president of the Royal College of Surgeons of Edinburgh, and president of the International Orthopedic Society, died at his home in Liverpool on January 23, 1963. When the Lady Chapel of the Liverpool Cathedral was thronged with colleagues, students and nurses, sharing with the bereaved family a memorial service as simple yet dignified as he himself would have chosen, the sun gleamed brightly through the stained glass window dedicated to service, at the foot of which rest the ashes of Robert Jones.

It was to the Liverpool school of orthopedics and the traditions of Hugh Owen Thomas, Robert Jones and T.P. McMurray that McFarland dedicated his life. Indeed the inspiration and magnetic personality of Robert Jones shone through many of his own qualities. He had the same happy twinkling eyes, warm heart, deep sense of friendship, love of children, gift of humor and fund of anecdote. He too showed open honesty with disdain of pomp and arrogance. His intuitive simplicity was a heritage of conservative philosophy broadened by awareness of new advance. With kind humanity he carried the torch of Robert Jones.

A true son of Liverpool, Bryan's life was spent on Merseyside, first at the Wallasey Grammar School and then the medical school of the University of Liverpool, where he graduated in surgery and medicine in 1922, and gained his doctorate of medicine with a thesis of special merit in 1924. He was one of the first four candidates to become master of orthopedic surgery in 1926; gained the fellowship of the Royal College of Surgeons of Edinburgh in 1928; and 20 years later in recognition of clinical and academic achievement was elected Fellow of the Royal College of Surgeons of England *ad eundem.*

The determination to serve crippled children was declared from the beginning: his second house surgeon's appointment was to the Leasowe Children's Hospital; at the age of 25 he became assistant consultant to the Royal Liverpool Children's Hospital, and shortly afterwards to the Alder Hey Children's Hospital. He was assistant orthopedic consultant to the David Lewis Northern Hospital from 1928 to 1933 when he became full consultant orthopedic surgeon to Robert Jones's own hospital, the Royal Southern.

In earlier years his teaching of undergraduate and postgraduate students was overshadowed by the powerful personality of the late Professor McMurray, whom he served loyally and faithfully as clinical lecturer; but on succession in 1948 as director of orthopedic studies, and later in the professorial chair of the university, his breadth of vision was given full rein and great qualities of leadership were firmly established.

The postgraduate course of orthopedic studies was modified by insistence on preliminary general surgical training, greater clinical responsibility, an introduction to clinical research, the academic discipline of preparation of a thesis, and above all by the broadening of teaching to embrace that of all his colleagues in Liverpool and in many other orthopedic centers. The luster and distinction he added to this historic school of orthopedics will be treasured with pride and affection by MChOrth graduates, not only in Great Britain but in every nation of the British Commonwealth and other countries throughout the world.

The success of his stimulating leadership arose not only from tremendous enthusiasm, unbounded energy, and devotion to duty such that in recent years he was worried and anxious lest the ever-widening field of knowledge in basic sciences might not be reflected fully; still more was it from his capacity for friendship. One of his close colleagues has written:

> The present spirit of friendly cooperation between Liverpool orthopedic surgeons is almost entirely of his

making. He was the prime mover in forming the Liverpool Orthopedic Circle in 1944. The informal and frank discussion of cases which follows each monthly dinner of the circle has proved invaluable to its members, not only in their work but in forming the foundations of much closer personal friendships than could otherwise have been possible. McFarland's contributions to the discussions were typical of him, direct and often pungent, and scorning all pretence and humbug. With McFarland at the head, the postgraduate school flourished.

As a founder member of the British editorial board of *The Journal of Bone and Joint Surgery* his quick wit, shrewd judgment, basic common sense and radiant happiness were invaluable. At an early meeting, after two issues of the first British volume had been expensively published, we reviewed the balance sheet with dismayed anxiety, and the board was informed that after months of endeavor, post-war controls had not yet been surmounted and there was no Board of Trade licence even for paper already used. With a chuckle McFarland said " it seems to me that in pursuing an illegal venture we face financial ruin—but we will go on." And on we did, in the happiest spirit of collaboration with our American colleagues.

These qualities stood him in good stead in the many councils and associations of which he became president, including the Liverpool Medical Institution, University Club, Merseyside branch of the British Medical Association and Liverpool Philomathic Society. He was clerk to the Robert Jones Dining Club, which meets each year after the eponymous lecture at the Royal College of Surgeons of England—an oration that he himself gave brilliantly, as he did also the first McMurray Memorial Lecture in Liverpool. He prepared assiduously, for example taking coaching lessons in French to improve his continental duties, culminating in the presidency of the Société Internationale de Chirurgie Orthopédique et de Traumatologie. We chaffed him that his French was spoken with a strong Liverpool accent; but we loved him the more.

The same assiduous determination was a feature of his recreations. He would leave home at three o'clock in the morning to arrive in Anglesey before dawn for wild-fowl shooting, and a superb shot he was. It was not until after the age of 40 that he became an enthusiastic fisherman, but so thorough was the preparation and practice that he could equal the skill of any Highland ghillie at Cape Wrath. Within a day or two of the end, during a brief return of consciousness and momentary recapture of the old sparkle, he instructed his son how to secure and pack a Scotch salmon to fly back to his chief in America with whom he was working on a surgical fellowship.

This tenacity and indomitable courage was epitomized in his presidential address to the Philomathic Society on "The Will to Live," when he said: "So it is with the will to live: through difficulties surmounted, fear overcome and pain endured the will is strengthened and the core of endurance is tempered hard." Ten years later these staunch qualities were exemplified in his own long illness, beginning while lecturing to old students in Australia, and ending so wearily that he was diffident in welcoming visitors lest he might not still seem steel blue and blade straight. With gentle love, and no less firm endurance, he was sustained and comforted by his wife Ethel. He left behind his wife and two sons John and Andrew.

Bryan's concluding words in his Philomathic address were:

> The times are troubled and trying: the present appears treacherous and the future uncertain. But if we put our doubting mind in its place, and if instead we search the hearts within us, we shall find a sense of inevitable success and a feeling of ultimate triumph. This feeling, if unhindered by anxious thought, will grow in strength; and when the troubled times are over we shall be just that little bit more balanced in judgment, that little bit more determined in character, and that little bit stronger in spirit. Of these little bits is built up our national character which renders unconquerable our land and invincible our soul.

Archibald Hector McINDOE

1900–1960

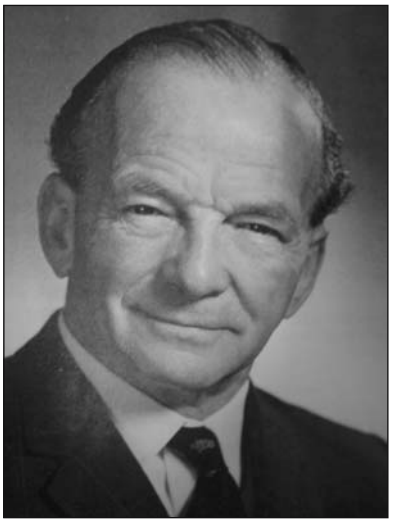
McIndoe was born in New Zealand, qualified in medicine at the University of Otago and did his postgraduate training in surgery at the Mayo Clinic, for which for the remainder of his life he had the greatest affection and admiration. Later he came to London and joined his cousin, Sir Harold Gillies, the great pioneer of plastic surgery, who outlived him by a few months. Within a short time he was on the staff of St Bartholomew's Hospital and his future in London was secure; indeed, for the last 20 years of his life, he was probably the most successful surgeon in any speciality in the metropolis.

He was a great friend of orthopedic surgery. During the Second World War he was consultant in plastic surgery to the Royal Air Force. The writer became closely associated with him in the problems presented by burns combined with fractures, and in the management of patients with extensive skin and bone loss. This work, which started in Royal Air Force hospitals and at the Queen Victoria Hospital, East Grinstead, was continued at the latter hospital until his death.

On his election to the Council of the Royal College of Surgeons of England, he became intensely interested in the College, of which he had just ceased to be senior vice president when he died. There was little doubt that he would have been the next president and the first New Zealander to hold the highest order in British surgery. His loss is a sore one for, among his many qualities, was an outstanding ability to persuade the giants of industry and commerce to contribute to the rebuilding and upkeep of the College.

Archie, as he was affectionately known to all his friends, was a great plastic surgeon and teacher. But he was also the most likeable of men, with an infinite capacity for enjoying life in the company of every stratum of society. Honors were given to him in abundance but, though accepted with obvious delight, they never altered his delightful character. He will be greatly missed by his many friends and colleagues all over the world—and not least by his patients, especially the badly burnt Royal Air Force boys of the Second World War, who banded together to form the Guinea Pig Club, which met annually at East Grinstead under his presidency.

Archibald McIndoe died peacefully in his sleep from a coronary occlusion on April 12, 1960, at the age of 59.



George Kenneth McKEE

1906–1991

Ken McKee, a pioneer of joint replacement surgery, was born at Ilford, Essex, the son of a medical practitioner who had migrated from Northern Ireland at the turn of the century. McKee was educated at Chigwell School and St. Bartholomew's Hospital Medical College. He then came under the influence of Elmslie, Higgs and Brockman at Chailey Heritage; proceeding to FRCS in 1934. McKee was appointed registrar at

the Norfolk and Norwich Hospital in 1932 and in 1939 joined H.A. Brittain on the staff as a consultant.

Orthopedic surgery proved to be a fertile field for a man who was fascinated by all things mechanical. His early interest in taking motorcycles and cars to pieces prepared him for an outstandingly inventive career. He himself admitted that "replacing worn joints was a fairly obvious treatment to me."

Throughout the 1940s and 1950s he pursued his goal of hip replacement with little encouragement from his more conservative and sceptical peers. Their comments of the time were recorded by McKee: "£200 is very expensive for an operation that is doomed to failure" and "prosthetic arthroplasty should be reserved for the over 90s." In later years he would often recall, with a twinkle in his eye, the eminent questioner at a Royal Society of Medicine meeting of 1957, who asked "where do you put the grease nipple?" McKee noted but disregarded the hoots of laughter that followed. His first models had been made up in brass in 1940, but he delayed putting his ideas into practice until chrome–cobalt alloys became available. He presented his first cases of total hip replacement in a clinical demonstration at the British Orthopedic Association meeting in Cambridge in 1951.

At this time, the management of unilateral hip arthritis was highly controversial. H.A. Brittain, from whom McKee had remained distant, had published two editions of his book *The Architectural Principles of Arthrodesis*, and Watson-Jones was another proponent of hip fusion. Indeed, in 1948, McKee had invented his own variant of hip fusion using a lag screw and was pleased that the fixation eliminated the need for plaster of Paris.

He continued to be committed to total replacement and in 1953 he visited F.R. Thompson in the USA and adopted the Thompson stem for his femoral component, using this in articulation with his chrome–cobalt cloverleaf socket until 1960. He reported a 50% failure rate of this combination in the short term. McKee's confidence in total joint replacement was not shared by others: even John Charnley was uncertain as late as 1957 and still advocated hip fusion.

John Charnley first used acrylic cement to fix a femoral prosthesis in 1958, and in 1960 he published his findings in *The Journal of Bone and Joint Surgery*. This was recognized by McKee as the breakthrough he was looking for. With his registrar, John Watson-Farrar, McKee conceived the metal-on-metal cemented hip joint, but unlike Charnley he did not restrict the use of his invention. Metal debris and impingement were major problems and these were addressed by redesign of the Thompson component and by making the femoral head slightly smaller than the socket to diminish equatorial wear.

McKee recognized Charnley's brilliant scientific and engineering skills but was always concerned about wear of high-density polyethylene and unimpressed by Charnley's laboratory studies of friction. Curiously, he himself introduced a metal-on-polyethylene variant of the McKee–Farrar prosthesis in 1972. Ken McKee was pleased to know that orthopedic surgeons and engineers were, in 1991, taking a second look at metal-on-metal articulations.

McKee's mechanical aptitude was not limited to total hip replacement. His interventionist approach to fracture treatment led to the use in 1941 of his own intramedullary nail for femoral fractures; A.R. Hodgson was his registrar at the time. A trifin nail and plate was developed for trochanteric fractures, and an external fixator incorporated in a Thomas splint was his novel way of treating tibial fractures. McKee also favored plate fixation for closed tibial fractures and even some open ones. He reported the use of molded plastic corsets for spinal pain and, in the wake of his hip replacement, he designed hinged prostheses for the elbow and the knee. He even experimented with acrylic cement as a replacement for intervertebral discs.

Ken McKee, though a bold and adventurous surgeon, was a quiet and discreet man, who found public speaking neither easy nor agreeable. His conversation was of cars, golf, skiing and sailing rather than orthopedics. His enthusiasm for golf was well known and he won the Robert Jones Cup of the British Orthopedic Association on three occasions. He also scored a hole in one at the age of 80.

Less well known in the profession was his conversion to Christianity, which occurred on a visit to Bethlehem during the Second World War—"the most important event in my life."

In 1972, in recognition of his services to orthopedic surgery he was appointed Commander of the Order of the British Empire and 3 years later received an Honorary Doctorate of Science of Cambridge University. He was awarded the Honorary Fellowship of the Royal Society of Medicine in 1986, a distinction of which he was particularly proud.

Ken McKee died on July 18, 1991, at the age of 85. He was survived by his wife Dan and four children.

Duncan Clark McKEEVER

1905–1959

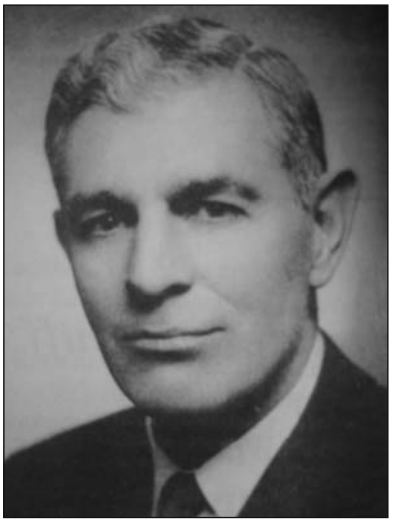
Duncan Clark McKeever was born on September 13, 1905, in Valley Falls, Kansas. After attending local schools, he graduated from the University of Kansas Medical School in 1929. As a naval reservist, he spent the next 4 years in naval training centers, followed by a residency in pathology at St. Luke's Hospital in Kansas City. While there, he fell under the influence of Drs. Frank Dickson and Rex Divley and became interested in orthopedics. After 3 years of association with them, he moved to Houston in 1939 to open a private practice. From 1941 to 1945, during World War II, he was back in the navy as chief of several hospitals. After the war, he returned to his private practice.

McKeever's knowledge of engineering principles led to his research interest in stress analysis as it applied to operative procedures on bones. His advanced ideas in orthopedic surgery led him to develop original procedures, and his exacting attention to details helped make them successful. His success led to additional innovative procedures, which included prostheses of the hip, patella, and tibial plateau.

His continuing studies kept him in demand as a teacher. Frequent visits from his many friends included those from Latin American countries. Dr. McKeever enjoyed hunting and fishing, and he was always delighted to be at his ranch.

McKeever was one of the founders of the Association of Bone and Joint Surgeons and became its third president. He was also a member and active participant in many orthopedic organizations and on local hospital boards and staffs.

On a rainy evening, October 13, 1959, when driving someone else's car, he ran out of gas: while filling the tank, he was struck by another car and killed.



Harrison L. McLAUGHLIN

1906–1970

Harrison L. McLaughlin was born in Cumberland, Ontario, Canada, where his father was a general practitioner. He was educated in Ottawa, receiving his medical degree from Queen's University Medical College in 1933. Twenty-eight years after his graduation he returned to give the Commencement Address and receive an honorary LLD degree from his alma mater. After interning in the Ottawa Civic Hospital he moved to New York for further training.

He became a resident on the fracture service of the Presbyterian Hospital directed by William Darrach and Clay Ray Murray. After finishing his residency he stayed on the faculty, becoming chief of the fracture service after the death of Clay Ray Murray, and clinical professor of orthopedic surgery, College of Physicians and Surgeons, Columbia University. He played an important role

as chairman of the trauma committee of the American College of Surgeons (1959–1964) and the American Association for the Surgery of Trauma, of which he became president in 1961. Although technically he had not been trained as an orthopedic surgeon, his work in the areas of fractures and trauma was recognized by his election as an honorary fellow of the American Orthopedic Association. In 1964 he was presented with the Surgeon's Award for Distinguished Service to Safety by the National Safety Council, which carried the following citation.

An expert surgeon respected by his colleagues, a teacher revered by his students, and a gentleman loved by all who knew him.

The management of shoulder problems was a major interest of Dr. McLaughlin and he wrote and lectured on the subject extensively.

Thomas Porter McMURRAY

1888–1949

Born in Belfast, McMurray graduated in medicine at Queen's University in 1910 and the next year went to Liverpool as house surgeon to Sir Robert Jones. In 1914, after serving for a short time in France as captain in the Royal Army Medical Corps, he was recalled to the Alder Hey Military Orthopedic Hospital in Liverpool where many English, Canadian and American surgeons were trained by Robert Jones and worked with him. McMurray's clinical appointments at the David Lewis Northern Hospital, Royal Liverpool Children's Hospital and Ministry of Pensions Hospital were coupled with university teaching appointments, first as lecturer and then, in succession to Robert Jones, as director of orthopedic studies. When a chair was established in 1938, he became Liverpool's first professor of orthopedics, and after upholding the traditions of Hugh Owen Thomas for a quarter of a century, he was made emeritus professor in 1948. He was honored by the presidencies of the British Orthopedic Association and the Liverpool Medical Institution, and was president-elect of the British Medical Association.

He was essentially a good companion. Whether in the operating theater, where none was immune from his wit, on the golf links, where he sank ridiculously long putts without appearing to look at the ball, at home playing cards, where he always seemed to win, or at a fair throwing at coconuts and smashing a whole stand of crockery for an outlay of half a crown, he was great fun. When doing nothing he did it thoroughly, and to see him sitting in the sun at his beloved Ystrad "cottage," gazing at the Denbighshire hills, was an education in relaxation. His kindness was warmed with an emotion that he himself would have denied. For 6 years after the loss of his first wife he was a very lonely man; but then the wound healed and after marrying again he enjoyed life more and more.

In McMurray was exemplified British reluctance to commit clinical observation to writing until confirmed after many years. His writings were therefore few, but they were important. Some may still find difficulty in eliciting his sign for posterior horn tears of the meniscus, and others may wonder why oblique displacement osteotomy avails in the treatment of osteoarthritis of the hip, but none may discount his conclusions, which were based so firmly on long observation.

His dexterity as an operator is almost legendary. Many have seen him remove a meniscus with the whole of its posterior horn in less than 5 minutes, and recent American visitors spoke of the fleetness of foot that was demanded of assistants chasing round the operating table when a hip joint was disarticulated in little more than 10 minutes. But it was the consummate skill and artistry of his technique that was even more impressive than the speed of it; the speed was indeed "an achievement and not an aim."

It is as a teacher that McMurray will be remembered. He was forceful, dogmatic, and even intolerant if the principles of Hugh Owen Thomas were denied. "You've read that in a book" he would say with reproof. He was not an orator, but his words will long be remembered: "Feel it laddie"; "I think you're splendid"; "Get on with it laddie"; "You're a credit to us." The building up of a great postgraduate school of orthopedic studies, with the MChOrth degree of the University of Liverpool, is the permanent contribution he made to the surgery of his generation. It is difficult to know the full extent to which he maintained and enhanced the Liverpool tradition of orthopedic surgery, but a measure of it is in the words of his old students, from the four quarters of the world, inscribed in a recent presentation volume:

> This book is signed and presented by your old students as a symbol of their respect and affection and to record for ever the debt they and their country owe to you. By your skill and by your teaching you have enhanced a great tradition: this is now our treasured heritage and by our deeds we will preserve it.

Shortly before his death he was still teaching postgraduate students from Australia, Canada, South Africa and many other parts of the world, and only a few days before he died, when the Hugh Owen Thomas Lecture was delivered in Liverpool, he welcomed "a lost sheep" back to the fold. He died from a heart attack in London on November 16, 1949, while on his way to South Africa to visit his son.

Walter MERCER

1891–1971

Sir Walter Mercer, Emeritus Professor of Orthopedic Surgery in the University of Edinburgh, Past President of the Royal College of Surgeons of Edinburgh, Honorary Fellow of the Royal Society of Edinburgh, the American College of Surgeons, the Royal College of Surgeons of England, Ireland and Canada, and the College of Physicians and Surgeons of South Africa, Master of Orthopedic Surgery *honoris causa* in the University of Liverpool, Honorary Fellow of the American Orthopedic Association, the Association of Surgeons of Great Britain and Ireland, the Royal Medical Society of Edinburgh, and Emeritus Fellow of the British Orthopedic Association, died 1 month before his 81st birthday.

He was chairman of the British editorial board of *The Journal of Bone and Joint Surgery* for 7 years. On the occasion of his 80th birthday in March 1970, a special issue was published in his honor (*Journal of Bone and Joint Surgery*, volume 52-B, no. 1, February 1970), with tributes from surgical colleagues, academic associates and former students, and appreciations of his incredible skill as an operating surgeon, and of his ability as a great teacher and firm but kind examiner. There were tributes also to his authorship of a wonderfully written and now standard textbook on orthopedic surgery, and to his strength of character in organization. He was acclaimed, though he modestly disowned, as the greatest "general surgeon" within our memory. He was presented

with a leather-bound and gold-faced preparation of this issue at a ceremony in his home at Easter Belmont Road, Edinburgh, receiving representatives of the editorial board still with the sparkle in his eye, quick wit and warm-heartedness. We are grateful and honored to know from his wife Maisie, Lady Mercer, that often in his remaining months of life he thumbed it through and reflected on the allegiance, respect and friendships that were so dear to him.

Born at Stow, Midlothian, and educated at George Watson's College and the University of Edinburgh, Walter Mercer graduated in medicine and surgery in 1912 with honors in practical anatomy, clinical surgery, systematic surgery and operative surgery. Already at this young age the destiny of a great surgeon was defined clearly. After surgical house appointments in Carlisle, Berwick and the Edinburgh Royal Infirmary, he gained a commission in the army and served as regimental medical officer to the King's Own Scottish Borderers and the Royal Scots Fusiliers.

There must be few who were able to serve their country in surgical military duties in both the great wars of 1914–1918 and 1939–1945; but he did. In the first he was in the trenches of the Messines Ridge, the desperate struggles of the Somme and the third battle of Ypres. He was invalided home but continued to work in the military hospital at Bangour and on problems of tuberculosis at East Fortune Hospital until demobilization in 1920. In the Second World War he was consultant orthopedic surgeon at Larbert base hospital and thoracic surgeon to Bangour hospital.

His success as a general surgeon was based not, as often it then was, on lists of gastroenterostomy, thyroidectomy and operations on the breast, with perhaps an occasional hemorrhoid, skin cyst or bunion just to give verisimilitude to the otherwise unconvincing title of "general." He first concentrated on traumatic surgery and during the years of war made important contributions, especially on the problems of amputation, later becoming chairman of the Ministry of Health advisory committee on artificial limbs. Then for some years his expert surgical technique was applied to oesophagogastric and abdominal surgery. He next engaged in neurosurgery and soon became a pioneer of thoracic surgery. After visiting Dr. Blalock in Baltimore, he came home with suitcases almost empty of clothes but full of special instruments with which to establish cardiac surgery in Scotland. He delighted to use a stethoscope with tubes 6 feet long, the distal part sterilized to go into the wound but with earphones available to surrounding students who would never forget the loud bruit of a patent ductus arteriosus disappearing immediately after ligation. Then finally he applied himself to orthopedic surgery and in 1948 accepted the first George Harrison Law Chair of Orthopedic Surgery in the University of Edinburgh, during the next 10 years developing the great school of orthopedics of which that capital city is now justly proud.

His skill in operative technique was phenomenal, and Lady Mercer has given permission to reproduce the oil painting of him in theater dress. With cool and calculating certainty, never with a wasted movement, never with apparent frustration or tension, his speed was such that it is said that one visiting surgeon went out for a cup of coffee while the patient was prepared for arthroplasty of the hip and returned soon to find with dismay that the wound was being stitched up. He did not practice a strict Lane technique, and in fact used the flexed and ankylosed terminal interphalangeal joint of his left index finger as the safest of all retractors. Yet with technique so speedy and atraumatic, the operative infection rate was far below average in a pre-antibiotic era.

Mercer's presidency of the Royal College of Surgeons of Edinburgh marked a renaissance from what his successor Sir John Bruce described as previously "almost entirely an examining body and a parochial surgical society" to a live and inspiring College with vigorous postgraduate surgical training, teaching in basic sciences, restoration of buildings and museums, establishment of its own publication, the *Journal of the Royal College of Surgeons of Edinburgh*, and re-establishment of Royal patronage. In reminding His Royal Highness the Duke of Edinburgh that the last royal sponsor of the College had been King George III, and deciding to present a valuable piece of Georgian silver from barber-surgeon days, Walter Mercer's aura of kind benignity was reflected when having said: "Your Royal Highness we wish to give you this . . . bleeding bowl," Prince Philip at once replied "I am bloody grateful."

Perhaps the most happy of all our memories is the hospitality of his home. No matter whether he met us at the overnight train from London at a very early hour, driving himself to an already prepared bath and breakfast, or whether we shared or heard of his prowess in tennis or golf with his wife Maisie, we always felt welcome. We will

preserve these memories with Lady Mercer and her son David.

Robert William METCALF

1936–1991

Bob Metcalf was born in Salt Lake City on September 12, 1936. He received his undergraduate and graduate education at the University of Utah and received a Doctor of Medicine degree in 1962. After 2 years of postgraduate training in general surgery, he spent 2 years in the United States Army. He then returned to the University of Utah to complete his orthopedic residency, before entering a career that would ultimately affect many of us.

Dr. Metcalf entered private practice in Provo, Utah, and became very active in sports medicine as the team physician for Brigham Young University, a position that he held for more than 10 years. During that time, he cared for and influenced many outstanding young athletes.

In the mid-1970s, Bob Metcalf became intensely interested in arthroscopy, and this pursuit profoundly affected the rest of his professional life. After joining the individuals who were pioneering this adolescent discipline, his zeal became readily apparent, and his natural talent as an educator allowed him to have an influence on thousands of orthopedic surgeons.

In 1979, he moved his practice to Salt Lake City, where he became instrumental in developing the Salt Lake Surgical Center. The center served as a prototype for many of the outpatient surgical centers that would come into being in the next decade, demonstrating that operations could be done rapidly, at a much reduced cost. This trend has had a major impact on surgery.

Dr. Metcalf joined the faculty at the University of Utah and was appointed Professor of Orthopedic Surgery in 1983. He gave hundreds of presentations on arthroscopy, nationally and internationally. Although he was not a prolific writer, Bob was responsible for several important publications in his field. He was a member of many societies, serving on many committees of the American Academy of Orthopedic Surgeons and as president, in 1984, of the Arthroscopy Association of North America, to name a few. He contributed immensely to the Orthopedic Research and Education Foundation, serving as chairman for the State of Utah from 1980 to 1983. He was also active in the Western Orthopedic Association and the Utah State Medical Association. One of the honors of which he was most proud was being named "Mr. Sports Medicine" by the American Orthopedic Society of Sports Medicine in 1983.

Perhaps Bob Metcalf's greatest professional achievements were the 26 national seminars on arthroscopic surgery that he organized and conducted between 1978 and 1991. His tremendous personal efforts and organizational skills were apparent each year. These seminars were amazingly successful; with a total registration of 9,325 orthopedic surgeons, they represent a unique educational effort in orthopedics. It was the continuing credibility of Bob Metcalf that brought new and returning registrants to the seminars.

In 1958, Bob married his friend and lifelong companion, Joyce Hawkes. They had ten children, to whom he devoted a major portion of his life. At his seminars, the children were apparent everywhere, helping him with details.

It might be that Robert Metcalf's greatest legacy was not to orthopedics but rather to humanity. He was a devoutly religious man, having been a bishop in the Church of Jesus Christ of Latter-Day Saints. Always eager to share the tenets in which he believed, he was continuously involved in missionary work throughout the world. Four of his sons also completed a 2-year, full-time mission for the Latter-Day Saints. The orthopedic community lost a true educator and a good friend when Robert William Metcalf died unexpectedly on June 2, 1991, in his beloved Salt Lake City, Utah. He was at a meeting of the Inter-

national Arthroscopy Association in Toronto when he was suddenly stricken with a myocardial infarction, and he died 2 weeks later, after returning home.

Henry MILCH

1895–1964

Dr. Milch was born in New York City, December 20, 1895, the son of Jacob Milch. He was educated at Columbia College and served as a lieutenant in the infantry in World War I. He received his medical education at the Columbia College of Physicians and Surgeons, interned at the Mount Sinai Hospital in New York, spent a year abroad studying pathology and returned to be an adjunct surgeon at the Broad Street Hospital. In 1927 he married Pearl Salzberg. He was survived by his wife, his daughter June Ruth Dubow, his son Robert Austin Milch and four grandchildren. In 1923, he joined the staff of the Hospital for Joint Diseases. In 1960, in his 40th year of hospital service, he became emeritus attending orthopedic surgeon. He was also consulting orthopedic surgeon to numerous city hospitals throughout these years.

His activities, locally, were many. From 1929 to 1956 he taught anatomy at his medical school. He accepted civic responsibility, giving much time to the New York City Police Department, the American Legion, and the Civil Service Commission. He was an active member in many professional societies and, several years before his death, was honored by election as Membre d'Honeur, Société Française d'Orthopédie et de Traumatologie.

His contributions comprised in papers and books reflect his broad interests in orthopedics. He described the syndrome of ischial epiphysitis, bone changes in Gaucher's disease, and the entity which, when fully outlined, became osteoid osteoma. He pioneered in the study of bone form by means of photoelastic stress analysis, urged cross-union in the treatment of tibial pseudarthrosis, and discussed the effects of resection of the distal end of the ulna and cuff resection of the ulna.

He was interested in joint-axis disturbances. He studied dislocations of the head of the radius, of the metacarpophalangeal joint of the thumb, of the distal end of the ulna, and of the temporomandibular joint; he investigated anomalous instabilities of the elbow, shoulder and hip joints and sought to restore joint stability, devising procedures for the reconstruction of the deltoid ligament in pronated flat foot, for repair of the tibial collateral ligaments of the knee, for correction of the buttonhole rupture of the finger extensors, and for reinforcement of the unstable metacarpophalangeal joint of the thumb. He studied the significance of localized cruciate ligament loss.

Problems of alignment and osteotomy attracted him; he wrote on rotation osteotomy of the ulna for pronation contracture of the forearm and on extension osteotomy of the femora for alignment of the severely flexed trunk in spondylitis ankylopoetica.

An avid mathematician since college days, he never ceased being interested in mathematical analysis of alignment disturbances. Deformities of the long bones, especially at the upper end of the femur, occupied much of his time in later years. His major interest was the study of the effect of resection of the femoral neck combined with a pelvic-support osteotomy on the disability caused by hip ankylosis (angulation-resection operation).

Monographs on osteotomy of the long bones, on injuries and diseases of the ischium, and on fracture surgery, combined with approximately 175 papers reflect his enthusiasm, his energy, and his imaginative and often individualistic approach to the field of medicine to which he was so devoted.

A critical worker, he regretted, like many before him, that he could not start his professional life where he had to leave off—that he would not

live to see the maturing of the union of clinical orthopedics with the burgeoning exact sciences. He followed closely the progress of the younger generation of orthopedists, noting with pleasure original contributions as they appeared.

He sought, by precision in speech and diction, to define the extent of the contributions of clinical experience pending its ultimate enrichment by basic research.

He will be warmly remembered and missed by friends and colleagues. His dynamic probing was a stimulus to thought. To him the spice of science was friendly controversy.

He was a wistful man to those who knew him intimately. He ranged widely in his interests and was stirred by archeology, philosophy, and music. He was a chamber music enthusiast, a founder member of the Doctor's Orchestra of New York, and remained active in an international group to his passing.

In Yucatan he and an internist friend traveled for days in tropical heat to inspect the ruin of an ancient pyramid. The friend relates that for himself, it was enough to look at and ponder the gigantic memento of a past people. Henry Milch, who had recovered from one vascular accident, would not rest until he had laboriously climbed 300 steep steps to the pyramid top to see what might lie behind and beyond.

The sudden passing on March 3, 1964, of Henry Milch by a cerebrovascular accident in his 68th year removed from orthopedics a man of parts.

Alexander MITCHELL

1881–1953

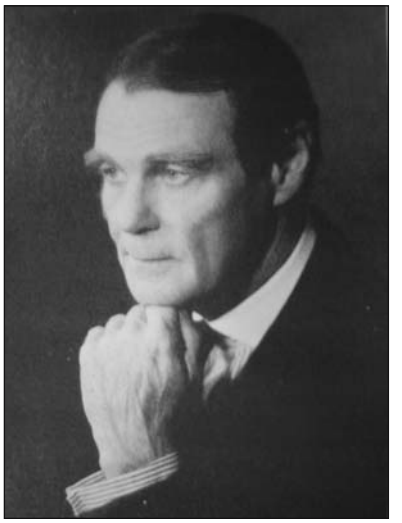
Alexander Mitchell came of medical stock; his father and grandfather had been country doctors practicing from a village in Aberdeenshire, pleasant enough in summer but grim enough in the snows. Throughout his life he remained strongly attached to this part of the countryside, and to it he returned—a homing habit Aberdonians have. Another custom of the north-east, now alas too rare, was to give a boy destined for medicine a good general education first, and so at the age of 20 Mitchell graduated MA (with the old "seven subjects") in the University of Aberdeen. Qualification in medicine followed in 1905, and the higher degree in surgery (ChM) in 1907. At first he practiced in the country, although he did some surgery in Fyvie and in Elgin, cottage hospitals with a splendid record in the care of country folk; but by 1914 he had been appointed both to the Royal Hospital for Sick Children and to the Royal Infirmary in Aberdeen.

Experience in the Royal Army Medical Corps during the First World War strengthened his interest in orthopedic surgery and on his return to Aberdeen it became his chief vocation, although he remained a general surgeon until 1936, when he took over the new orthopedic unit in the Royal Infirmary. From this unit he developed the orthopedic service of the north-east of Scotland, which he directed during and after the war. When he gave up surgery, he found an outlet for his energy in hospital management.

I met him first in 1932 when I was appointed to the Chair of Surgery in the University of Aberdeen, and I and mine have had 20 years of unbroken kindness from him and from his. As sometimes happens with the physically afflicted, he seems early in life to have come to terms with his handicap, a process that involves a purification of the spirit that sets its mark upon a man. The outward sign of this was an indomitable courage, which refused to accept any restriction upon his riding, the only form of physical exercise open to him, and one that he followed with an almost perverse insistence up to the last, an insistence that not infrequently alarmed his friends. As was his habit, he remained entirely if unostentatiously faithful to his horse Redwing, whom he counted as a friend; and it is good to know that a "next-best" home has been found for this remarkable animal, as his rider would have wished. The inward sign was the effortless way in which he immediately established affectionate relationships with most children, and working relationships with even the intractable. To be with him in a children's ward was always an education in the art of surgery. Before such patients were segregated, he would give me his advice upon orthopedic problems most generously: and—like the man—it was always simple advice, and eminently practicable.

Mitchell's broad education, wide interests and long experience made him a wise counsellor. His opinions were always definite and expressed in the clearest of terms. If the matter were private, one had to be prepared, on occasion, for unpalatable advice; often enough further reflection showed him to be right. In public matters his complete disinterestedness made his opinions and advice most influential; and I believe that it played a substantial part in the rapid and frictionless establishment of the orthopedic service in the north-east. He was a man who had a mind, and knew it: and he was careful that others knew his mind. But no thought of himself was allowed to influence his views, and he was most generous to his fellows. Only two things disturbed his generally benevolent outlook: sins of omission, and any suspicion of "wangling." Then there would appear the prophetic malar flushes and the ominous stare, and the culprit would be left in no doubt of Mitchell's opinion of him.

He was good enough to serve two terms as an examiner in surgery in the University of Edinburgh, and an excellent examiner he was—simple, direct and eminently fair. The whole staff looked forward to his arrival; everyone (even, I understand, the "ploughed") enjoyed meeting him.



George Patrick MITCHELL

1917–1993

George Patrick Mitchell, past president of the British Orthopedic Association, came from a medical background, his father having been a general practitioner in Aberdeenshire. George was educated at Trinity College, Glenalmond, where he captained the shooting team that won the Ashburton Shield at Bisley, and at Aberdeen University. Soon after graduating in 1940, he became Regimental Medical Officer to the 23rd Hussars and had a distinguished military career, which ended in 1944 when he was wounded in Normandy in an action for which he received the Military Cross. Throughout his life his military experience was evident in his bearing and in his disciplined approach to work and recreation.

His orthopedic training began in Aberdeen after the war and continued at the Nuffield Orthopedic Centre in Oxford. In 1954 he was appointed consultant surgeon to the Royal Infirmary and to the Princess Margaret Rose Hospital in Edinburgh, and senior lecturer at Edinburgh University. J.I.P. James, who came to Edinburgh as professor in 1957, recognized the value of specialization within orthopedics (a rather innovative concept at that time) and encouraged George to develop his interests in

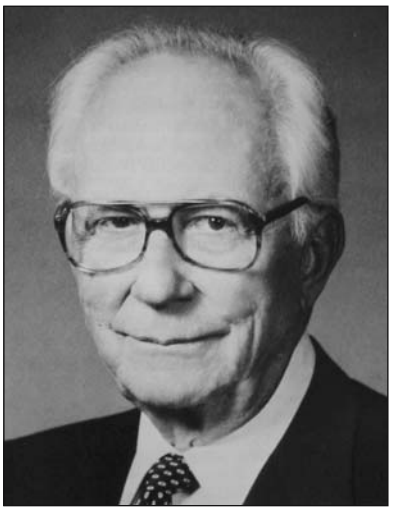
pediatric orthopedics, which had been kindled by Joseph Trueta and Edgar Somerville in Oxford. He established in Edinburgh one of the most successful neonatal screening programs for congenital dislocation of the hip and acquired an international reputation in the treatment of this disorder.

Perhaps as a result of his experience as one of the early ABC Traveling Fellows in 1954, he recognized the importance of international contacts and exchange of ideas. He became an active member of SICOT, serving as the UK delegate for many years and as congress vice chairman of the SICOT meeting held in London in 1984. For several years after its inception, he served on the editorial board of *International Orthopedics*, devoting many hours to the translation of papers into English.

George will be remembered as a caring doctor, a teacher and an administrator rather than as an academic. Although he wrote little, each of his papers made a significant contribution. Orthopedic trainees from many countries vied for the opportunity of an attachment to his unit and he was in great demand as a lecturer throughout the world. His contribution was recognized when he was elected president of the British Orthopaedic Association, holding that office for two terms.

George lived life to the full and found time for a variety of recreational interests. Although he took up skiing late, he perfected an elegant and effective style and was a popular member of the orthopedic ski club. He took great pleasure in introducing his two daughters and his grandchildren to the joys of sailing and field sports, which he continued to enjoy until a few weeks before his death. Hazel, whom he met when both were serving in the armed forces, was an enthusiastic partner in all his pursuits; their golden wedding would have been celebrated a few days after his death.

George Patrick Mitchell died on September 2, 1993 after a long illness borne with characteristic courage.



John Howard MOE

1905–1988

John Moe was born on August 14, 1905, the youngest of six children of Norwegian immigrants, on a farm not far from Grafton, North Dakota. He was first exposed to English in a single-room schoolhouse, at the age of 6 years.

After completing secondary school, he entered the University of North Dakota at Grand Forks. He obtained his medical education at Northwestern University, Chicago, during the Depression, and received further orthopedic training in Arkansas, California, and St. Paul. Minnesota. In St. Paul, he joined Dr. Carl Chatterton, then chief of staff at Gillette Children's Hospital, in 1933. This was the beginning of his involvement with Gillette Children's Hospital, which continued throughout most of his professional career.

In 1934, Dr. Moe was appointed clinical assistant professor at the University of Minnesota. He became professor and director of the Division of Orthopedic Surgery in 1964 and stayed on, as chairman, when departmental status was granted in 1969.

Dr. Moe's greatest interest and academic contributions were in the area of spinal deformities. His early associations with Dr. Walter Blount, Dr. John Cobb, Dr. George Hammond, Dr. George Garceau, Dr. Claude Lambert, and many others stimulated his interest in and devotion to patients who had scoliosis. Under his direction, a scoliosis service was established at Gillette Children's Hospital in 1947, and this served as an early focus

for his activities. His understanding and development of the facet fusion technique, emphasis on achieving a sound arthrodesis even in the presence of rigid internal fixation, refinements in the indications for and construction of the Milwaukee brace, and development of the concept of selected fusion for double curves are just a few of his noted contributions. As Paul Harrington once said: "John Moe was the father of modern-day treatment of scoliosis." His challenging critiques, helpful advice, open-mindedness, willingness to try the new, and desire to teach and to educate were among his greatest attributes.

In 1964, after a national conference on management of scoliosis at the University of Minnesota, a society for the study and research of scoliosis was first proposed. John Moe was one of the founding members, and he was the first president of the Scoliosis Research Society when it held its initial meeting in 1966.

In 1974, Dr. Moe founded the Twin Cities Scoliosis Center, along with the John H. Moe Spine Fellowship Program, affiliated with the Department of Orthopedic Surgery at the University of Minnesota. Under his leadership, the center became a focus for tertiary spinal care, research, and education. Physicians from all over the world sought his advice and counsel and came to study with him. These accomplishments gave him the greatest pleasure. His generosity, support, promotion of others, and unselfish sharing of his substantial clinical experience were no doubt responsible for the tremendous number of articles, textbooks, and research projects that emanated from the center.

John Moe received many honors throughout his productive career. He was a member of the American Orthopedic Association, and its president from 1971 through 1972, and was a member of the Canadian Orthopedic Association, the Clinical Orthopedic Society, la Société Internationale de Chirurgie Orthopédique et de Traumatologie, the American Academy of Orthopedic Surgeons, and the American College of Surgeons, to mention a few. He held honorary memberships in many national societies worldwide, and he particularly treasured his friends and colleagues in South America, where he spent much time facilitating the development of programs in scoliosis and spinal deformity. He was a recipient of the Distinguished Award of Merit from Northwestern University, the University of North Dakota Sioux Award, and the Regents Award from the University of Minnesota.

After his retirement from active practice in 1980, Dr. Moe took increasing comfort in the love and support of his wife, Mary Lou. On April 2, 1988, John Howard Moe died of complications of a brain tumor. In addition to his wife, he was survived by a son and a daughter, a stepson, three stepdaughters, and a sister.

A quest for excellence; open-mindedness; total dedication to his patients; a Herculean work ethic; a never-ending sense of compassion; and most importantly, a love of mankind—these are John Moe's greatest legacies.

Giovanni Battista MONTEGGIA

1762–1815

Monteggia was born at Lake Maggiore and studied at Milan. At first he was a surgical pathologist; while performing an autopsy on a woman who had died of syphilis he had the misfortune to cut his finger and infected himself with the disease. Later he became a successful general surgeon and pleased one patient so much that he was given an annuity to keep his library up-to-date.

When he became professor of surgery at Milan he published his lectures, which are remarkable for the wide acquaintance with the work of his contemporaries. He is particularly remembered for his description of a fracture dislocation of the forearm, which he described in the same year as Colles described his fracture.

Austin Talley MOORE

1899–1963

Austin Talley Moore was born June 21, 1899, in Ridgeway, South Carolina. He graduated from Wofford College at Spartansburg, South Carolina, in 1920, and in June 1963 a grateful Alma Mater made him the recipient of an honorary doctorate degree.

Dr. Moore completed his medical school work at the Medical College of South Carolina in 1924. He interned at the Columbia Hospital in Columbia, South Carolina, from 1924 to 1925, and then went north to study and work with Professor A. Bruce Gill at the University of Pennsylvania until 1927. He then returned to Columbia to practice orthopedic surgery.

In 1939, he founded the Moore Clinic in Columbia, where his initiative, enthusiasm, and hard work made him an international figure. Dr. Moore devoted himself unselfishly to teaching the advances in orthopedic surgery in which he played a great part. His lectures carried him around the world and to practically every large metropolitan center in this country.

Austin Moore was a pioneer in the use of the femoral-head prosthesis; his work on this and on Vitallium made available the techniques and material that have restored the ability to work and a good life to literally thousands of elderly patients.

Dr. Moore gave the Commencement Address to the graduating class at Wofford College in June 1963. His address to the young graduates embodied the philosophy that guided him throughout his career and made him an outstanding citizen, world-famous surgeon, and devoted husband and father. Prominent in the address were favorite quotations: from Thomas Carlyle, "Blessed is he who has found his work; let him ask no other blessedness," and from Longfellow's "The Ladder Of St. Augustine":

> The heights by great men reached and kept
> Were not obtained by sudden flight,
> But they, while their companions slept,
> Were toiling upward in the night.

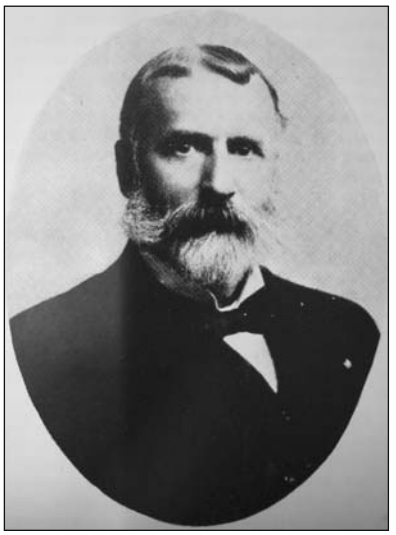
Austin Moore looked upon life as a challenge; he believed that man succeeded or failed in direct proportion to his own desires and responses. He told the graduating class in 1963, "there will be times when the way is uncertain. . . . Remember that which cannot be avoided must be endured; the happy man is the one who makes adjustments and don't forget the master word is work."

Perhaps Dr. Moore's approach to life is best described by one of his favorite quotations from William Ernest Henley's "Invictus":

> It matters not how straight the gate,
> How charged with punishments the scroll,
> I am the master of my fate;
> I am the captain of my soul.

Austin Moore left behind him a heritage of rugged individuality, of humility, and of service. He died suddenly at a time when he was still active and enjoying the fruits of a distinguished career. He left behind his wife Mary Frances, and a son Austin Jr.

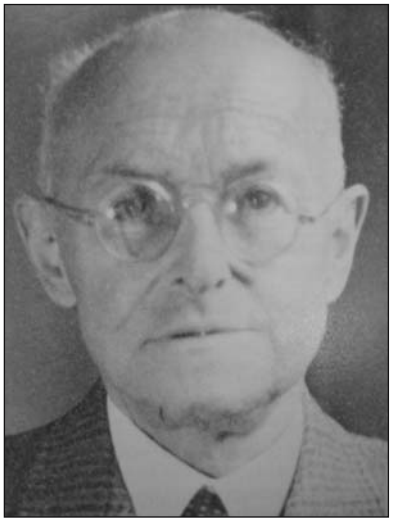
> He gained a world; he gave that world
> Its grandest lesson: "On! Sail on!"



Thomas George MORTON

1835–1903

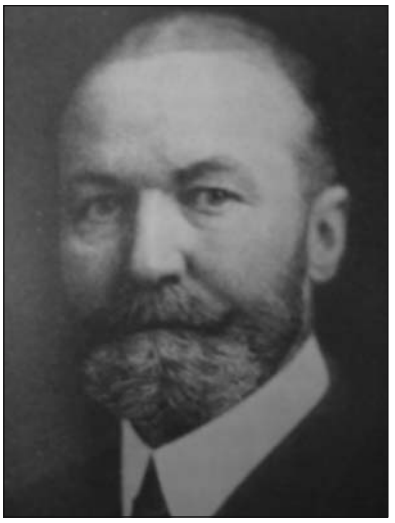
Thomas George Morton was born in Philadelphia. He received his MD degree from the University of Pennsylvania in 1856, and practiced medicine, specializing in general surgery, in Philadelphia from 1856 to 1860. During the Civil War he was active in the establishment of military hospitals. In 1876, Dr. Morton was appointed commissioner to build a state insane asylum, and in 1886 was chairman of a committee on lunacy. In 1880, Thomas Morton was president of the Pennsylvania Anti-Vivisection Society and he also served as vice president of the Pennsylvania Society for Prevention of Cruelty to Children. His research and publications covered blood transfusions as well as other medical topics, but his important contribution to orthopedics was the first rational description of metatarsalgia. Subsequently named "Morton's disease," the symptoms of metatarsalgia were described as neurologic in origin and attributed to the pressure of bone on the digital nerves as passed between the metatarsal heads between one or more toes.



Walther MÜLLER

1888–1949

Walther Müller was born on May 6, 1888 in Waldenburg in the county of Saxony, Germany, the son of a mathematics professor. Müller began his medical career as a surgeon under the guidance of Arthur Läwen in Marburg. Early in his career, through experimental work, he laid the foundation in the field of osteology and physiology of the skeletal system. In 1924, Müller's monograph on the normal and pathologic physiology of bone, which is still pertinent today, was published. This work earned him the nickname, "Knochenmüller," a miller of bones. In 1928, he went with Läwen to Königsberg, where he became an "Oberarzt," assistant medical director. During his stay in Königsberg, his works on the biology of joints (1929), the pathophysiology of the spine (1932), the congenital deformities of the hand (1937), and degenerative changes in overstressed bone (1944) were published. On February 1, 1938, Müller was appointed director of the orthopedic clinic in Königsberg. Later, he fled as a refugee shortly before the end of the war. He returned to head an orthopedic clinic in Glauchau. Müller died on April 7, 1949, at his birthplace in Waldenburg.



John B. MURPHY

1857–1916

John B. Murphy was born near Appleton, Wisconsin, in 1857 of immigrant Irish parents. He was raised on a farm, attended country school, and graduated from the high school in Appleton. He began to study medicine as a preceptor of a local physician and at the age of 21 went to Chicago to attend Rush Medical College, which was located directly across the street from the Cook County Hospital. He became a protégé of Christian Fenger, who urged him to further his education by visiting the famous clinics abroad. Returning to Chicago in 1884, he gradually established himself in private practice as a surgeon, and he eventually married the daughter of one of his wealthy patients.

Murphy was an ambitious, hard-working entrepreneur who popularized the diagnosis and operative treatment of appendicitis, devised the first widely used method of intestinal anastomosis, the Murphy button, and refined the techniques of arthroplasty. He became a professor of surgery at the Rush Medical College and at the Northwestern Medical College. In 1911 he was elected president of the American Medical Association.

Murphy's flamboyant personality attracted and held the attention of the local and even the national press. He was not loved by his colleagues in Chicago, who felt that he sought publicity to enlarge his practice. He died of a coronary occlusion in 1916.

It is significant that his biography by Loyal Davis is entitled, *J.B. Murphy: Stormy Petrel of Surgery*.[1] When the years pass and the tumult and the shouting dies, it is possible to evaluate such an individual on the basis of his accomplishments rather than his personality. By this measure, Murphy must be rated highly as an innovative and bold surgeon who enriched a wide variety of special areas in surgery, including orthopedics. The significance of Murphy's work on arthroplasty was appreciated by the MacAuslands,[2] who, in their recapitulation of the development of the techniques of arthroplasty, state: "The credit for the development of the fascial flap method is due to the late John B. Murphy, of Chicago, who was more persevering than any other surgeon in his endeavor to restore motion to ankylosed joints. The method devised by Murphy has formed the basis of the great majority of modern arthroplastic measures."

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2. MacAusland WR, MacAusland AR (1929) The Mobilisation of Ankylosed Joints by Arthroplasty. Philadelphia, Lea and Febiger

Julius Salem NEVIASER

1902–1980

Julius Salem Neviaser was born in Brandywine, Maryland, on October 21, 1902, but his family

moved to Washington when he was a young child. He was graduated from McKinley High School in 1920 and received his AB and MD degrees from George Washington University in 1923 and 1927, respectively.

His internship was taken at Sinai Hospital in Baltimore; in 1928 he moved to New York City to accept an orthopedic surgery residency at the Hospital for Joint Diseases. He completed his residency in 1930 and then stayed on as a teaching assistant for an additional year. When he returned to his home in Washington, it was to begin a practice in orthopedic surgery that would last for 50 years. In 1933 he married Jane Frances Gibbons; this happy marriage was to last his life through and produce three sons: Jules, Robert, and Thomas. Perhaps he was proudest of the fact that all three followed in his footsteps to become orthopedic surgeons.

Dr. Neviaser held teaching appointments at George Washington University Center and Howard University Medical Center, rising to the rank of clinical professor at both institutions. He initiated and developed teaching programs in orthopedics at Howard University and at the Washington Hospital Center; at the latter he held the chairmanship of orthopedic surgery until 1968, when hospital rules required that he step aside. He maintained numerous hospital appointments and served as a consultant lecturer at the US Naval and Walter Reed Army Medical Centers. He was a diplomate of the American Board of Orthopedic Surgery and served as an examiner for the Board for many years. His memberships in professional organizations included the American Orthopedic Association, the American Academy of Orthopedic Surgeons, the American College of Surgeons, the Orthopedic Research Society, the Société Internationale de Chirurgie Orthopédique et de Traumatologie (SICOT), the Mexican Orthopedic Society, and the Latin American Orthopedic Society, as well as such regional societies as the Southeastern Surgical Congress and the Eastern Orthopedic Association.

Dr. Neviaser's extensive publications began in 1930 and numbered more than 50. His greatest specialty interest was disorders of the shoulder. From his classic treatise, "Adhesive Capsulitis of the Shoulder. A Study of the Pathological Findings in Periarthritis of the Shoulder," which appeared in *The Journal of Bone and Joint Surgery* in 1945 (27: 211–222), to his volume *Arthrography of the Shoulder: The Diagnosis and Management of the Lesions Visualized*, published by Charles C. Thomas in 1975, he made a lifelong study of shoulder problems. He was invited to publish two instructional courses that he had given, the first on adhesive capsulitis of the shoulder, in 1949, and the second on injuries in and about the shoulder joint, in 1956. His expertise resulted in new surgical procedures to treat acromioclavicular injuries by transfer of the coracoacromial ligament, repair old or chronic dislocations of the shoulder, use free biceps grafts for rotator cuff defects, and employ freeze-dried cadaver grafts for massive rotator-cuff tears.

For his work on the shoulder he was honored by an invitation to be one of the nine conveners of the Inaugural International Conference on the Shoulder, held in London at the Royal National Orthopedic Hospital in September 1980.

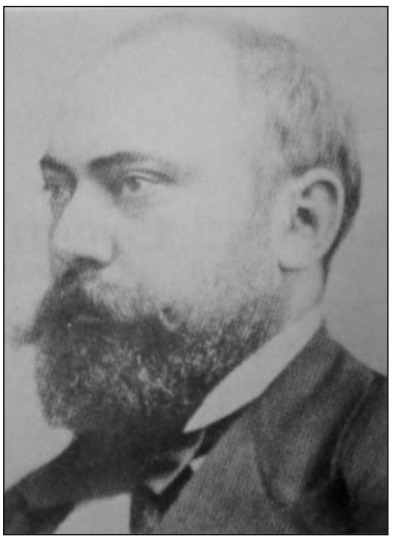
His interest in orthopedic surgery certainly was not limited to the shoulder, however. He published articles on problems of the hand, neck, femur, humerus, and knee. In addition to his surgical treatment of shoulders, he is well known for his meniscectomies involving division of the tibial collateral ligament.

Although much of his life was devoted to orthopedic surgery, Dr. Neviaser did have other interests, mainly centered around his family. He was an avid and enthusiastic golfer and enjoyed stamp and coin collecting. He read extensively, preferring historical subjects to fiction.

Dr. Neviaser was well liked and admired by his peers. He is best remembered for his kindness and encouragement to young orthopedic surgeons and other physicians starting out in practice. He always had a friendly greeting and a smile for everyone. His enthusiasm for his work lasted throughout his entire life. Often, he would stop to discuss shoulder problems with colleagues, who sought him out both at home and at meetings, and he frequently gave advice to orthopedists from around the country, who felt comfortable calling him about shoulder problems. His honesty and willingness to share his experience made him admired, respected, and beloved by orthopedists of all ages and backgrounds. He listened to the opinions of others as well and, although he might have disagreed with them, he respected their right to differ. Typical of his dedication to his work is the approach that he used in gathering data for his investigation of adhesive capsulitis of the shoulder. Because some of the studies were carried out at autopsies, he often left a full office during the day or his family at home at night to rush off to

do the necessary dissections. His patients and his family never complained.

His happiest times were spent with his family, especially with his wife, Jane, with whom he shared a mutual devotion. They often were seen together at meetings and social events, on the golf course, or as the most accomplished couple on the dance floor. He enjoyed spending time with his three sons, exchanging ideas and teaching them. This relationship has stimulated them to continue his lifelong interest in the shoulder, and he considered this his greatest legacy. He never seemed to change over the years, and many colleagues and friends remarked that they felt he would go on forever. He had actively practiced orthopedic surgery up to the time of his death. Julius Neviaser died at his home in Washington, DC, on August 20, 1980, at the age of 77. He was survived by 11 grandchildren as well as the immediate family.



Carl NICOLADONI

1847–1902

Carl Nicoladoni was born in Austria and educated in the wonderful Vienna era of the history of medicine and surgery. His principal contributions were varied, numerous, and important. Among hand surgeons, he is famous for his work on tendon transfers and tendon sutures and for his pioneering of pollicization of a toe. He was assistant to Dumreicher at Innsbruck and 10 years later was appointed to succeed him as professor of surgery. He reported new operations for gastroenterostomy, esophageal diverticulum, torsion of the systemic cord, and resections in strangulated hernia. Nicoladoni described nerve endings in the joint capsules and observations on the biomechanics of scoliosis. He was called to Graz as senior professor in 1895, where he died after only 7 years of tenure, at the age of 55.

E.A. NICOLL

1902–1993

The orthopedic establishment in the United Kingdom in the years before the Second World War consisted mainly of men who had worked with Robert Jones, either at Liverpool or at the Military Orthopedic Centre at Shepherds Bush during the First World War. There were some, however, who gradually became orthopedic surgeons, having started their careers as general surgeons, and Nicoll, who was not an establishment figure, was one of these.

Born in 1902, he went to Cambridge University and then St. George's Hospital, London. He qualified in 1926 and became a general practitioner in Corbridge, Northumberland. The local cottage hospital was visited regularly by Professor Grey-Turner from Newcastle and Nicoll assisted at operating sessions. He was quickly converted to surgery and in 1929 became resident surgical officer in Mansfield, Nottinghamshire, where he remained for the rest of his professional career.

Nicoll's lifelong work with trauma started when the Midland Colliery Owners' Mutual Indemnity Company asked him to establish a fracture clinic at Mansfield General Hospital for the treatment of injured miners. His next step was to develop a rehabilitation unit for miners at Berry Hill Hall, near Mansfield. It was the first such unit in England and in 1939, at the onset of war, Nicoll was appointed consulting surgeon to a committee formed to undertake the task of providing similar centers in all the major coalfields of Britain. It was vital for servicemen and workers to be made fit as soon as possible and it was during the war that the concept of rehabilitation became widely accepted.

Nicoll was then invited to investigate the management of traumatic paraplegia on behalf of the Miners' Welfare Commission, which arranged for him to visit centers in North America in 1947. His report was accepted by Aneurin Bevan, then Minister of Health, although it was not until 1954 that the spinal injuries unit was opened at Lodge Moor Hospital in Sheffield with Frank Holdsworth, Nicoll's close friend and colleague, in charge of orthopedics.

Fractures of the spine were common in miners, and Nicoll's wide experience at Mansfield convinced him that simple wedge fractures were stable and needed no treatment, apart from a short period of rest followed by exercises. This brought him into sharp, but good-humored, conflict with Watson-Jones, who was adamant that these fractures should be immobilized in a hyperextension plaster for 4 months. When Watson-Jones lectured on fractures of the spine, he used to show a slide of a patient in a plaster cast labeled "Watson-Jones' method," followed by a slide that was completely blank and labeled "Nicoll's method." At the SICOT meeting in Paris in 1950, Nicoll spoke after Watson-Jones and he also showed two slides. The first was of a miner going back to work in the pit, labeled "three months after Nicoll's treatment"; the second slide was completely blank and labeled "four months after Watson-Jones' treatment."

With the advent of the National Health Service in 1948, Nicoll was able to give up general surgery and became consultant orthopedic surgeon at Mansfield General Hospital and the Royal Hospital, Chesterfield.

His reputation grew rapidly and he contributed many important papers to *The Journal of Bone and Joint Surgery*. Most were on trauma: these included contributions on fractures of the dorsolumbar spine (1949); treatment of gaps in long bones by cancellous insert grafts (1956); quadricepsplasty (1963); and fractures of the tibial shaft (1964). The last is a classic description of the results of a very large series of fractures treated conservatively and remains a benchmark against which other series are still measured.

In 1960 he founded the British Orthopedic Travellers' Club, which at first was a small group elected from the editorial board of *The Journal of Bone and Joint Surgery*. It was very much "Nick's club" in those days and he organized superb meetings in many European countries and enlivened them with talks on history and music illustrated by his own piano playing.

In 1967 he retired from surgical practice, but his energy and enthusiasm were undiminished. Apart from creating a water garden on the site of a demolished mill in Nottinghamshire, he became the first director of postgraduate education at Sheffield. He taught himself to make tape recordings and to copy slides and built up a large library on all aspects of medicine and surgery for the use of doctors throughout the region.

When he gave this up, he turned to editing and produced the English edition of a new Italian journal, *Lo Scalpello*, which later became the *Italian Journal of Orthopedics and Traumatology*. When competent translators became difficult to find, he learned to read Italian, although he was already in his 80s.

His outgoing personality, his penetrating approach to orthopedics and his willingness to challenge orthodoxy made him welcome all over the world. He lectured in North America, Brazil, South Africa and in nearly all the countries of Europe.

He was survived by his wife, one son and two daughters.

Karl Iversen NISSEN

1906–1995

Karl Nissen began his career in England only 2 years after that great pioneer, Sir Robert Jones, had died. He was almost contemporary with such surgeons as Watson-Jones, Osmond-Clarke and Jackson Burrows. He added luster to the orthopedic scene.

Karl Iversen Nissen was born in New Zealand of a Danish father and an English mother. Qualifying in 1932 from the University of Otago, he first went into general practice before deciding to specialize. A research project followed, in which he studied in great detail several generations of a family affected with brachydactyly. A thesis based on this work gained him the MD (New Zealand) in 1934. In another project he studied that ancient reptile, the tuatara—almost unchanged in 130 million years and unique to New Zealand's North Island.

Nissen came to England in 1935 to study for the FRCS examination and to train in surgery. He never returned to New Zealand. After a period in general surgery, he trained in orthopedics at the newly established Princess Elizabeth Orthopedic Hospital in Exeter, under the tutelage of Norman Capener, and later at the Royal National Orthopedic Hospital. During the Second World War he served in the Royal Naval Volunteer Reserve, mainly in South Africa and St. Helena.

After the war, Nissen was appointed to the staff of the Royal National Orthopaedic Hospital and was orthopedic surgeon to the Harrow Hospital and the Peace Memorial Hospital in Watford. He served all these hospitals until his retirement in 1971.

This bare outline of his career does nothing to highlight his special talents or his stimulating personality. In the early years he contributed erudite papers on the pathology of carpal tunnel syndrome and of Morton's metatarsalgia, but soon developed his special interest in osteoarthritis of the hip—or "primary coxarthrosis," as he preferred to call it. This motivated him throughout the rest of his life. Early on, he was quick to embrace the novel technique of replacement of the femoral head pioneered by the Judet brothers of Paris in 1950, and he wrote a book on the subject. The operation, however, failed to pass the test of time and was abandoned.

From then on, Nissen championed the cause of minimal displacement intertrochanteric osteotomy of the femur, a development of the original McMurray osteotomy. He saw in this a means of promoting natural healing through the medium of "tufts" of cartilage that sprouted from the articular surfaces. In many cases he was indeed able to show the reappearance of a substantial cartilage space after the operation, which could persist for 20 years or more. He put the case for this "conservative" operation with characteristic force against the total joint replacement that was being advocated by Charnley to the exclusion of all other techniques. Nissen and Charnley each performed his chosen operation before the cameras for a notable television program some 30 years ago: Nissen was always keen to show later radiographs of his patient, who had gained lasting benefit from the osteotomy.

Nissen was always a stimulating teacher. At the Royal National Orthopedic Hospital he organized and convened annual postgraduate courses for young surgeons from European countries. The popularity and success of these courses were largely due to his infectious enthusiasm. They brought him many lasting friendships among European colleagues and led to his being elected as corresponding member of most of the orthopedic societies of Western Europe—honors that he greatly cherished.

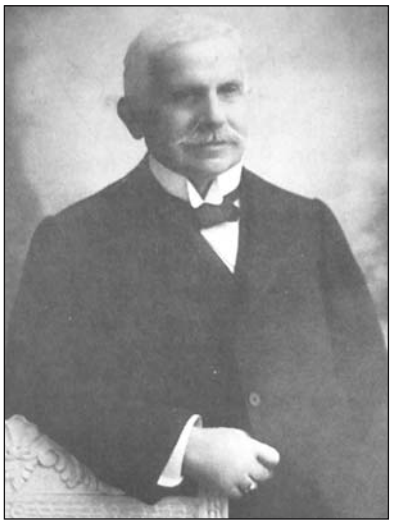
He had a natural aptitude for the English language and a rare capacity for critical assessment of scientific papers, which led to his being drawn into the activities of the British volume of *The Journal of Bone and Joint Surgery* by Sir Reginald Watson-Jones, the journal's first editor. He served the journal with great loyalty for many years—mostly in an honorary capacity—and

even today there are many who are grateful to him for honing their papers to his own high standards.

After his retirement he maintained a keen interest, especially in hip surgery. He continued to attend meetings and conferences. He studied French to enliven his contacts with friends in France and Belgium, and to give lectures in the native tongue. At the same time he devoted himself to the care of his ailing wife Honor, often taking her in her wheelchair for holidays abroad. She died in 1981.

In later life Nissen himself was severely handicapped by peripheral neuropathy, but in spite of increasing difficulty in walking he remained active, through sheer determination. His enquiring mind and the wide scope of his interests led him to a deep study of the genetic basis of osteoarthritis and the early history of Man. He hypothesized on the manner in which early migrations of tribes carrying genes that marked specific skeletal disorders are reflected today in the world distribution of such disorders as congenital dislocation of the hip and osteoarthritis of the hip and knee.

Karl Nissen loved people. His hobby was conversing with colleagues, juniors, or even total strangers. He was always kind and notably generous, with a happy twinkle in his eye. For many years after retirement he made a practice of entertaining two or three sixth-formers from Sherborne School to tea on Sundays, and doubtless added significantly to their education from his enormous store of general knowledge and anecdotes. A few months before his death he gained particular pleasure from being able to travel to Aberdeen for the annual meeting of the British Orthopedic Association, at which he was given a standing ovation after accepting an honorary fellowship.



George C. NOULIS

1849–1919

George C. Noulis was born in the village of Paracalamos of Pogoru, Ioannina, Greece. He received his elementary and high school education at the famous Zosimea School in Ioannina, from which he graduated with honors in 1866. He was admitted to the University of Athens School of Medicine as an exceptional student, where he earned his medical degree with honors in 1871. He was granted a scholarship to pursue postgraduate study at the University of Paris Faculty of Medicine. Noulis studied in Paris for 5 years, receiving further training in internal medicine and general surgery.

On May 3, 1875, Noulis defended his thesis, "Sprains of the Knee," before a committee at the University of Paris School of Medicine, which included many prominent professors. In his doctoral thesis, Noulis described precisely the role of the cruciate ligaments of the knee and how to test their functional integrity. The method Noulis described in his thesis is identical to that used in the Lachman test. The article, "How New is the Lachman Test?"[1] cited the observations Noulis made 117 years before, and credited him with being the first to describe the physical finding.

Noulis returned to Greece in 1876, where he practiced medicine in Ioannina, which at that time was still a part of the Ottoman Empire. Because of his ability, Noulis was elected to be one of five physicians designated as physicians of the poor. He also became the chief surgeon of the local hospital. In this position he had a large practice,

which included prominent individuals in the region.

In 1895, Noulis moved with his family to Athens, and 2 years later moved on to Constantinople (Istanbul), where he spent the rest of his life. He became a member, and later president, of the Committee on Biological Sciences, and actively participated in and contributed to the medical life of the city. He numbered the Sultan Hamit's son and one of the sultan's wives among his many patients.

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Don Horatio O'DONOGHUE

1901–1982

Don H. O'Donoghue was born in Storm Lake, IA, where he attended the local schools, including Buena Vista College, from which he obtained a BS degree in 1920. He studied medicine at the University of Iowa and received his medical degree in 1926. He studied orthopedics at the University of Iowa Hospital under the aegis of Arthur Steindler. O'Donoghue spent time in the general practice of orthopedic surgery in Oklahoma City before joining the university faculty as chief of orthopedics. In this role, he united the free-standing orthopedic programs in the city into one program centered at the university.

Beginning in 1950, O'Donoghue began aggressively to address the problems of ligament injuries in college athletes. Instead of pursuing a conservative style of treatment consisting of prolonged immobilization in plaster dressings, which was the standard of the day, he advocated early operative repair followed by a focused rehabilitation program. In addition to reporting his success in the orthopedic journals, he summarized his ideas in a book, *Treatment of Injuries to Athletes*, which was published in 1962.[1] In the introduction to the book, O'Donoghue expresses his philosophy regarding the treatment of athletes.

O'Donoghue's work has affected the treatment of injuries in athletes throughout the world. The results obtained by the aggressive approach to open exposure and repair of ligamentous injuries are far superior to those of the conservative approach. Don O'Donoghue truly was one of the founders and pioneers of the field of sports medicine.

Reference

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Frank Roberts OBER

1881–1960

Frank Ober was born at Mt. Desert, Maine, June 1, 1881, and died in Boston on December 26, 1960. Of Down-East Yankee stock, his 80-year life was a kind of Horatio Alger success story, compounded of native ability, ingenuity, hard work, and devotion to duty.

After 2 years at Westbrook Seminary, the equivalent of 2 years of college, he entered Tufts Medical School where he obtained his medical degree in 1905. Following a year of rotating internship, he returned to Maine to spend several years in general practice in Northeast Harbor. But he needed larger fields for his talents and returned to the Children's Hospital in 1913 by Model-T Ford, with very little money in his bank account and a devoted wife at his side to begin his chosen career in orthopedics.

First there was residency training for 2 years, after which he became a junior member of the Children's Hospital visiting staff. Then came World War I, which had a decisive influence on Ober's career. Before the United States declared war on Germany, he volunteered for duty with the original Harvard group, which went overseas in May 1917 as US Army Base Hospital No. 5. Here he was in the company of such men as Walter Cannon, Harvey Cushing, Elliot Cutler, and Robert Osgood and served as head of the orthopedic section of the hospital in France for almost 2 years. During that time nearly 25,000 patients with war wounds were cared for in Base Hospital No. 5. His war experience gave him a solid grounding in the fundamentals of wound healing, and his observation of man under stress enriched his understanding of human behavior.

Returning to Boston in 1919 with the rank of Lieutenant Colonel, Army of the United States, Ober plunged into his civilian professional career as the associate and protégé of Robert W. Lovett, who was chief at the Children's Hospital and professor at Harvard Medical School.

Graduate education of physicians was one of his major interests; he was assistant dean in charge of Harvard Medical School's courses for graduates for a number of years. Harvard's present position in graduate medical education owes much to his vision and leadership.

Most of his teaching was done at the Children's Hospital, where he rose from junior member of the visiting staff to chief orthopedic surgeon in 1931. Simultaneously he climbed Harvard's academic ladder. He was for 10 years John Ball and Buckminster Brown Clinical Professor of Orthopedic Surgery. Like most good surgical professors, he taught by the case method at grand rounds and by demonstration of his technical ability, which was characterized by a deceptive simplicity and the dispatch that came from a thorough knowledge of anatomy and from having thought through the steps of the operation before picking up the scalpel. His surgical skill was evident to the trained observer and was even more evident in the smooth convalescence of his patients and in the excellence of his operative results.

His superb ability as a clinician was appreciated by a host of loyal and grateful patients and their families and by referring physicians, who recognized his sound common sense, his sure quick grasp not only of the local problem but of the patient's hopes, fears, and needs. To rich and poor, wise and foolish, he gave top-flight care. He never fussed over patients; his innate sympathy for his fellow man was masked by a gruff manner of speech, which frightened the timid nurse or resident but was easily penetrated. Even casual acquaintance permitted one to recognize his warm underlying personality and his superior intellect.

Dr. Ober continued Lovett's custom of going to New York and Philadelphia about once a month to see patients in consultation. For many years he spent a fourth of his time away from his home base in these cities. The month of August was always spent in Northeast Harbor, Maine, where he cared for summer residents and Down-East fishermen alike.

In 1915 Vermont had its first major poliomyelitis epidemic. Dr. Lovett visited the stricken areas in that state and laid plans for the convalescent care of the hundreds of children who were severely crippled by the disease. As there was not a single orthopedic surgeon in Vermont, and state medicine was unknown anywhere in the United States and unthinkable in Vermont, financial support for the program of rehabilitation came from private donations. The total cost of the rehabilitation program for poliomyelitis patients in Vermont hospital, professional, and home care, was provided by the annual budget of about $30,000. For 25 years Dr. Ober was the physician responsible for the execution of the plan and he personally operated upon each of the patients without a cent of remuneration in the form of professional fees. From 1919 till his retirement in 1946, Dr. Ober made an annual tour of the poliomyelitis clinics in Vermont. He prescribed the treatment to be carried out and selected patients suitable for reconstructive surgery. With this wealth of clinical material he developed many surgical techniques of rehabilitation by muscle transposition and by joint stabilization. These included original muscle transplants to improve function and to correct deformities in weak shoulders, elbows, hips, knees, and ankle.

His interests were not confined to poliomyelitis. He also devised an operation for soft-tissue release in severe club-foot deformity. Suitably modified, it is used today as a standard procedure. Painful feet and lame backs were two clinical problems that challenged his resourceful mind and to which he brought new insight.

Dr. Ober's originality of concept and care in execution of his newly devised surgical procedures gained them early acceptance even by his professional rivals in a day when clinical rivalry was intense and sometimes bitter.

The residents and younger associates whom he trained adopted and championed his techniques. He was one of the major influences that made the Boston school of orthopedics shine with particular luster during his time.

Although his clinical work was his vocation, it was not his sole interest. He enjoyed teaching and was an effective teacher. He took pleasure in writing and was the man who made the second edition of Jones and Lovett the best orthopedic textbook of its day. He was working on the third edition at the time of his death. Hunting and fishing were his favorite outdoor sports and nothing was allowed to interfere with his annual trip to the Adirondacks in search of a deer. After a lunch eaten with dispatch, a friendly game of cards was fun for himself and his companions. He was a witty and sage conversationalist, illustrating the point he wished to make by quoting in dialect an apropos remark by some down-in-Maine character of his acquaintance.

The offices and honors that came his way were many. He was president of the Massachusetts Medical Society and of the American Orthopedic Association. He was chairman of the Advisory Committee of the National Foundation for Infantile Paralysis and received honorary degrees from Vermont and Tufts Universities.

His broad philanthropic interest in all handicapped people was exemplified by the substantial fund that he raised in memory of Dr. Lovett. This Lovett Fund was used to support the early studies on rheumatoid arthritis, sponsored by Harvard Medical School and carried out at the Massachusetts General Hospital. Our present expanding knowledge of rheumatoid arthritis and the large amount of productive research now going on in this field received its impetus in some part from Ober's influence.

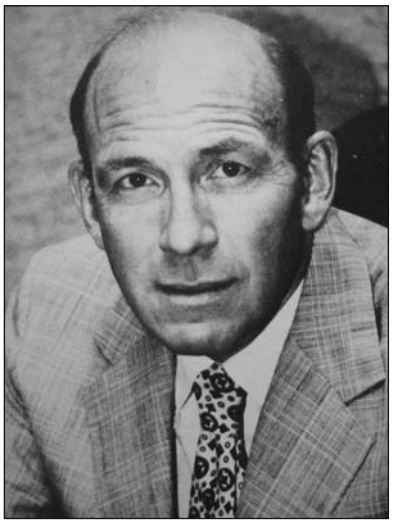
In addition to the Lovett Fund, he also raised funds to support research at the children's medical center.

There is no better example of his unselfish devotion to duty than his work at the New England Peabody Home for Crippled Children. He was its surgeon-in-chief for 17 years, responsible for the professional care of its children, most of whom were suffering from skeletal tuberculosis. At staff rounds, held each month on Sunday mornings, at the Home, members of the staff and many regular visitors were encouraged to discuss freely the problems of each patient. All those attending rounds quickly developed an appreciation of Dr. Ober's professional skill. Under his conscientious supervision, the Peabody Home cared for several hundred children with serious long-term illnesses, restoring most of them to health and preparing them for a productive role in society. For the last 14 years of his life he was a member of the Peabody Home Board of Trustees.

His active private practice continued until his death. It could be said of him that the reward for work well done was the ability to do more work. Enjoyment of his professional work was embellished by his Yankee dislike of sham and by his use of the salty phrase.

The end came as he wished it to, suddenly following a brief illness, without the slow decline in

health that is painful to watch and more painful to endure. He was strong physically, and able intellectually to the close of his life.



Richard L. O'CONNOR

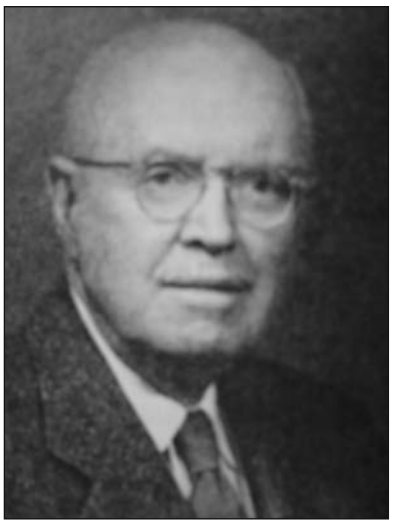
1933–1980

Born in Chicago, Illinois, and educated at De Pauw University, Indiana, and Northwestern Medical School, Illinois, Dr. O'Connor began his medical career as a general practitioner in Telluride, Colorado. Later, returning to Louisville, Kentucky, he completed his orthopedic training in 1968 under the supervision of Professor James Harkess, and settled in West Covina, California. His first special interest was in the field of hand surgery. This was soon superseded by a new interest. Dr. O'Connor traveled to Tokyo, Japan, where he studied the arthroscopic techniques of Dr. Masaki Watanabe, and returned to the United States with a Watanabe arthroscope. Perceiving quickly the great potential of this instrument, he became its prime advocate in southern California. Overcoming the natural resistance to new techniques, he persisted in his attempts to teach other orthopedists its value as a diagnostic tool as well as its potential for intra-articular surgery. In the process he helped to develop the first operating arthroscope and became the first to employ the instrument in meniscal surgery. He also helped to develop interest in intra-articular photography, including movies, 35-millimeter slides, and videotapes. He produced the first high-quality color photographs of the interior of the knee joint.

Dr. O'Connor organized and directed many teaching courses on the subject of arthroscopy, the attendance at which was always capacity. His technical skill led to results that were difficult to match. His stamina, vitality, and capacity for work were hard to equal. He found time to write several papers, a monograph, and two books on arthroscopy.

Dr. O'Connor enjoyed classical music and stimulating conversation. His sense of humor was sharp and disarming. He was demanding in his work, but compassionate with his patients. He demonstrated unusual courage, particularly during the difficult terminal period of his illness, and never gave up hope.

Richard L. O'Connor, a pioneer in the development of arthroscopic surgery, died on November 29, 1980, in Bandon, Oregon, where he spent his last days, following a fight against cancer of the lung. His wife Caroline, whom he married in 1955, was at his side.



Hiram Winnett ORR

1877–1956

Hiram Winnett Orr (the Hiram was replaced by the enigmatic initial H as soon as he learned to sign his name) was born in West Newton, PA, where his father was a dentist. After graduating from the local high school at the age of 15 years, he entered the University of Nebraska. In Lincoln,

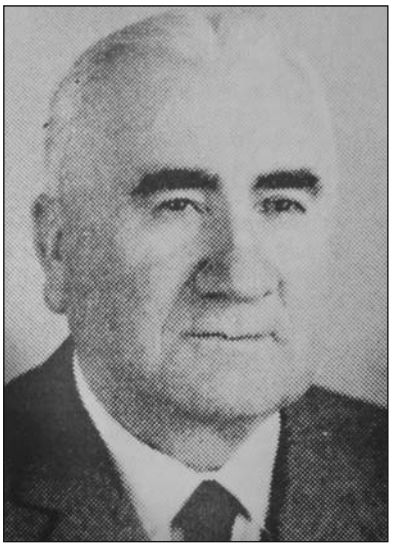
he lived with his maternal uncle, Dr. Hudson J. Winnett, a busy general practitioner. He entered the University of Michigan School of Medicine in 1895 and graduated 4 years later. He then spent some time in New York at the Bellevue Hospital before returning to Lincoln and joining his uncle's practice. He became dissatisfied with his life as a general practitioner, and in 1904 went to Chicago where he fell under the spell of Dr. John Ridlon, the Professor of Orthopedic Surgery at Northwestern University. After spending a summer in Chicago working with Dr. Ridlon, Orr returned to Lincoln filled with enthusiasm for his new specialty.

He then joined a group of individuals already lobbying for a crippled children's hospital. In 1905 the legislature provided funds to open the State Hospital for the Crippled and Deformed. This was only the third state-supported hospital of its type in the United States. Orr was intimately associated with the work of this hospital, later called the Nebraska Orthopedic Hospital, for 50 years.

During World War I, Orr was a member of the Goldthwait Unit of Young American Orthopedic Surgeons assembled by Dr. Goldthwait, and was sent to England for training under the aegis of Sir Robert Jones in preparation for service to American forces in France. Later, Orr was in charge of a base hospital in Savenay, France, where he was responsible for the care of thousands of patients with open fractures. It was his exposure to Dr. Ridlon and Sir Robert Jones that gave Orr an appreciation of the work of Hugh Owen Thomas and his principle of rest, enforced, uninterrupted and prolonged, and it was his experience with large numbers of open, contaminated fractures, that led him to develop his method of treatment. At the end of the war, Orr was discharged with the rank of Lieutenant Colonel. He was always very proud of his army service, and after his death he was buried in Arlington cemetery in Virginia. After his return to civilian life, Orr perfected his method and applied it to cases of acute hematogenous osteomyelitis and open fractures. He wrote and lectured to promote its use. During the Spanish Civil War, Trueta used with great success the Orr method, with some modification, in the treatment of open fractures. The use of the Orr and Trueta method has been eclipsed by the introduction of antibiotics and the emphasis on delayed primary or early secondary closure of wounds, coupled with effective internal fixation. It remains, however, a viable option for treatment in less than optimal conditions.

As early as 1903, Orr was lecturing on the history of medicine at the University of Nebraska. He pursued his interest in medical history for the rest of his life. He was a collector of rare medical books. He gave his collection of more than 2,600 items to the American College of Surgeons, and it is now on permanent loan to the University of Nebraska College of Medicine. A second collection of books on Anne of Brittany and her era was given to the Love Library at the University of Nebraska.

Orr had extensive experience as an editor, including a short stint as editor of the progenitor of *The Journal of Bone and Joint Surgery*, and as an author of numerous papers and several books. He was president of the American Orthopedic Association in 1936. Orr was a well-known figure in Lincoln, NE, where it was common knowledge among the children that if your parents took you to see Dr. Orr, he would put you in a cast.



Marino ORTOLANI

1904–1983

Very few non-orthopedic surgeons have contributed as much to the study of congenital hip pathology as Professor Marino Ortolani. He was born in 1904, studied medicine in Bologna, Italy, and became a pediatrician, opening his practice in

1929 in Ferrara, Italy. It is interesting how a single case completely changed the scientific interest and career of Professor Ortolani.

In 1935, a 5-month-old baby was brought to Professor Ortolani with a diagnosis of Cooley's anemia. The child's mother was worried because, since birth, she had felt a click every time the perineal region of the baby was washed. Professor Ortolani became very interested in this fact, asking the mother to reproduce this click. He carefully examined the baby and found that during abduction–adduction motion of the thigh, the click was clearly audible and palpable. He took an x-ray of the hips and congenital hip pathology was clearly recognized. From that day, Professor Ortolani started examining the hips in all newborn children born in his hospital and all babies brought to his clinic, and was amazed at the number of newborns with positive "click" signs. He started treating these children in abduction and external rotation of thighs, holding them loosely with three diapers. (It is a well-known fact that the province of Ferrara has one of the highest incidences of congenital dislocation of the hips in all of Italy.)

The young pediatrician Ortolani wrote his first paper in 1936 (in *Atti Accademia Medica-Ferrara*) entitled, "A Very Little Known Sign and its Importance in the Early Diagnosis of Congenital Hip Predislocation." In that paper he described in detail the click, which later became known all over the world as Ortolani's sign.

In 1938, Professor Ortolani became director of the Children's Hospital, but his special interest remained the hips in newborn children and babies. In those years he contributed much to the very early diagnosis and treatment of congenital hip pathology in the province and town of Ferrara, and in 1946 the Italian government opened the "Center for the Diagnosis, Prophylaxis and Treatment of Congenital Hip Dislocation," which was the first of its kind in the world. Professor Ortolani became the director of this new center.

Professor Ortolani has diagnosed and treated personally over 8,000 children with congenital hip pathology. Since the opening of the Center for the Diagnosis, Prophylaxis and Treatment of Congenital Hip Dislocation, Professor Ortolani had dedicated all of his professional and scientific activity to the congenital hip problem. His energy, organizational capabilities and his love of teaching were endless. He educated his nurses on the examination and treatment of congenital hip pathology in the newborn and sent his nurses to the homes (in Italy not all children are born in the hospitals) of farmers to examine newborns and to treat the hips in the event of positive findings. (In many cases the nurses have to travel many hours on a bicycle to reach the most remote areas of the province of Ferrara.)

Professor Ortolani became interested in anatomical pathology of the congenital hip in 1938 and dissected numerous hips in very young babies who died from unrelated causes. He collected many excellent specimens of congenital hip pathology in the fetuses at all stages of intrauterine development, proving that congenital hip pathology already exists in the fetus. Professor Ortolani was a pioneer of the very early diagnosis and treatment of congenital hip pathology. He had written 31 papers and one book on this subject. He had presented the papers at numerous pediatric and orthopedic meetings in Italy and all over Europe, and was an active participant at all SICOT meetings in the post-war period, presenting papers on this subject.

Professor Ortolani was a very fine gentleman, whose kindness, generous hospitality, humility and endless patience were proverbial and well known to the numerous visitors from all over the world. The immense love and patience in treating these small children who came to walk normally after completion of his treatment and the gratitude of their parents became the compelling purpose of Professor Ortolani's life and work.

Robert Bayley OSGOOD

1873–1956

Robert Osgood, or Bob, as he was always known to his friends, was of good New England stock. He was born in Salem, Massachusetts, July 6, 1873, the son of John Christopher and Martha Ellen (Whipple) Osgood. His line could be traced back to John Osgood who emigrated from Hampshire, England, to Andover, Massachusetts, in 1638.

Following an education in the public schools of Salem, Robert Osgood was admitted to Amherst College, from which he was graduated in 1895 after the usual classical training in Greek, Latin, and English literature. While in college his chief outside interests were dramatics and singing with the glee club; these interests he retained throughout his life. He was listed in his senior year as an independent in politics, a Congregationalist, and a candidate for medical school. What inspired him to enter medicine is not known. The decision would appear to have been made late, for in those days it was rare for a man who was going to study medicine to obtain a classical education. This gave him the broad intellectual outlook he later had toward every aspect of life, professional or domestic, and made him a delightful companion. He loved poetry and could quote from it for hours. He also loved music and had good musical understanding, although he played no instrument until in later years, when he learned to play the flute and fife for amusement.

He was granted his degree from Harvard Medical School in 1899. During his last year in medical school, he served as a student intern at the House of the Good Samaritan. This institution was devoted to the care of patients with chronic diseases and, at that time, was, to a large extent, filled with tubercular patients; among these were many with tuberculous joint disease. Undoubtedly, it was from assisting such orthopedic surgeons as Edward Bradford, Elliott Brackett, and Joel E. Goldthwait in the care of these patients that he became interested in orthopedic surgery. Following graduation, he served a surgical internship at the Massachusetts General Hospital. This was considered a full qualification for the practice of surgery.

At that time, the first machines for clinical roentgenographic study were introduced, following Roentgen's great discovery of x-rays in 1895. We can easily imagine how Robert Osgood, with the eagerness of youth and with the background of his orthopedic experience at the House of the Good Samaritan, where the diagnosis of bone and joint conditions was based only on clinical examinations and impressions, would become interested in this new tool, which offered the possibility of more exact diagnosis. He formed a friendship with Walter J. Dodd, the pharmacist at the Massachusetts General Hospital, who, for lack of a better qualified person, had undertaken to make the first experiments in the use of the x-ray machine. Together they explored its value as a diagnostic aid. After finishing his internship, his first hospital appointment was that of roentgenologist at the Boston Children's Hospital in 1902 and 1903. It was while working there that he made the observations on the growth and traumatic disturbances of the tibial tubercle during adolescence, which were published in a paper on January 29, 1903. These lesions have since become known as Osgood–Schlatter disease, Schlatter having at a later date also described the condition. The early association with W.J. Dodd also gave rise to a paper under their joint authorship in 1906 on the technique and interpretation of roentgenograms as applied to surgery. Fortunately, Robert Osgood's roentgenological work was of short duration because Dodd, who remained active in the field, and indeed was one of its great pioneers, incurred skin cancers of the hands, which ultimately proved fatal. Bob Osgood also had many skin cancers of the hands. He underwent several operations and a cure resulted. He died of cerebral vascular disease.

In 1903, Robert Osgood went to study in Germany, France, and England; in England he

made the acquaintance of Hugh Owen Thomas and his nephew Robert Jones, whose work made a deep impression on him. On his return he became associated with Dr. Joel E. Goldthwait and Dr. Charles F. Painter in the practice of orthopedic surgery. He was made assistant orthopedic surgeon at the Carney Hospital and, in 1906, assistant orthopedic surgeon at the Massachusetts General Hospital. He participated with Dr. Goldthwait and Dr. Painter in the writing of one of the first American books on orthopedic surgery entitled *Diseases of the Bones and Joints*. He was deeply interested in research; his work at that time included studies of metabolism in patients with rheumatoid arthritis and, later, in association with Dr. William B. Lucas, studies of the transmission of the virus of poliomyelitis. They demonstrated that the virus of poliomyelitis might remain latent in the nasopharyngeal lymphoid tissue of monkeys for 6 months after the acute symptoms of the disease had disappeared and that it still could be transmitted to other monkeys. Later they were able to demonstrate for the first time a case of a human carrier of poliomyelitis by means of the recovery of virus from the nasal washing of a patient who had experienced an attack of poliomyelitis 4 months previously.

With the development of an orthopedic inpatient service at the Massachusetts General Hospital in 1911, following the successful efforts of Dr. Goldthwait in raising funds to build ward I, Bob Osgood's clinical work was centered in the Massachusetts General Hospital. At about this time he became instructor of surgery at the Harvard Medical School.

In 1910, in collaboration with Dr. Samuel J. Mixter, he reported the first open reduction of dislocation of the atlas on the axis, the reduction being maintained by fixation with a strong silk suture. This operation forecast the pattern of the operation that has since been followed, only the silk suture has been replaced by stainless-steel wire and fusion has been combined with the fixation.

The First World War presented a great challenge to medical science in meeting the emergencies and needs of caring for thousands of wounded. When the French and British armies were locked in trench warfare with the Germans along the Belgian and French frontiers in 1915, there was formed a Harvard surgical unit to work in rotation with other American university units at the American Ambulance in Neuilly. This unit, headed by Harvey Cushing, with Robert Osgood as orthopedic surgeon, was soon at work. The experience, brief as it was, was enough to convince Bob Osgood of the frequency and importance of wounds of the extremities involving skeletal structures caused by machine-gun fire and high-explosive shells and of the need for experienced orthopedic surgeons to provide the necessary expert care.

History moved forward rapidly; it was soon evident that American troops would be in action in the European theater of war. Bob Osgood was not alone in foreseeing the need for the immediate training and preparation of American orthopedic surgeons to meet the responsibilities of providing care for American casualties. Thanks to the initiative and support of other American orthopedic surgeons and particularly to the cooperation of Robert Jones, who at this time held the rank of Colonel in the Royal Army Medical Corps and who had been made responsible for the care of all those with injuries of the musculoskeletal system in the British Army, arrangements were made so that it was possible, as soon as the United States entered the war, to enrol a group of orthopedic surgeons in the American Army and to send them to Great Britain to assist in the care of British wounded. There they learned the methods of treatment that had proved most successful. In due course, after the arrival of American troops in France and their introduction into combat, these American orthopedic surgeons were relieved of their duties in Britain and were transferred for active duty with the American Expeditionary Forces.

Bob Osgood obtained his commission in the army as soon as the United States entered the war; and, after serving with the Army Medical Board appointed in 1917 to standardize splints, appliances, and surgical dressings for the American Expeditionary Forces, he was transferred to the British Medical War Office in London, where he served 6 months as deputy to Major General Sir Robert Jones, chief of the orthopedic section of that service. This assignment brought him into close personal relationship with Sir Robert Jones, whom he quickly learned to love. Indeed, it was because of the friendly relations he established with the British orthopedic surgeons that he was able, at the end of the war, to help in the founding of the British Orthopedic Association, which had seemed impossible previously, largely because of local rivalries and failure to attain unity of purpose and understanding. Full acknowledgment has been made by some of the

founding members of this Association of the unique role played by Robert Osgood in its formation. He was made one of its first honorary members. In February 1918, Robert Osgood was attached to the office of the chief surgeon of the American Expeditionary Forces at Tours, where he served as a deputy to Colonel Goldthwait, who was then responsible for development of the army orthopedic service under the chief surgeon. Later Bob Osgood was recalled to the United States to serve as orthopedic consultant to the Surgeon General. In this position he did valuable work through periodic visits to the large base hospitals in the United States, where he was able not only to examine the quality of the work being done but also, because of his large experience, to help in the solving of individual problems. He was discharged in 1919 with the rank of Colonel in the Medical Reserve Corps.

Upon returning to Boston and upon the retirement of Dr. Elliott Brackett, Bob Osgood was promoted to head of the orthopedic service of the Massachusetts General Hospital. His weekly orthopedic rounds were stellar performances, not so much because of what he said, but because of the opportunity he offered to all staff members for full discussion. Ultimately he summarized the discussions, which clearly guided the final decisions as to treatment. He operated only often enough to maintain his technical skill, feeling always that the surgical opportunities should be given to the junior staff surgeons. He devoted himself to his residents, learning to know them and their families personally, so that he was familiar with all their problems. When a man did not come up to the standards required, he redoubled his efforts in the hope that he would find a way to stimulate him and set him on the right path. He was able to arrange the incorporation of the orthopedic resident training programs of the Massachusetts General Hospital and the Boston Children's Hospital into a single program under the aegis of Harvard Medical School. This gave a 12-month residency at each of the two institutions and a 6-month training period in the basic sciences at Harvard Medical School. It was the most advanced and comprehensive program of orthopedic training in the United States and served as a model for many other medical schools.

One of his major achievements was the organization of the first conference on the treatment of fractures, a 2-day meeting, which was held at the Massachusetts General Hospital in 1921. This represented a triumph of diplomacy and leadership because it brought together for the first time general surgeons who were interested in fractures and orthopedic surgeons. The conference was attended by 50 or more general and orthopedic surgeons of great individuality and reputation. It seemed impossible that such men as Ashley Ashurst of Philadelphia, William Sherman of Pittsburgh, Charles Scudder of Boston, Kellogg Speed of Chicago, to name only a few, could get together with a group of orthopedic surgeons and achieve a meeting of the minds on the treatment of fractures; yet, this was accomplished and the results were published in a bulletin of the American College of Surgeons entitled *A Primer of Fracture Treatment*. This was reprinted many times and was later translated into many foreign languages. From this first meeting emerged the Fracture Committee of the American College of Surgeons, an organization on a national scale, which was established to improve both the emergency care and the final treatment of fractures. This Fracture Committee has since been expanded to become the Committee on Trauma of the American College of Surgeons.

In 1922, Bob Osgood left the Massachusetts General Hospital and became Chief of the Orthopedic Service at the Boston Children's Hospital; this carried with it the title of Professor of Orthopedic Surgery at the Harvard Medical School. In 1924, he was made John B. and Buckminster Brown Professor of Orthopedic Surgery, a permanently endowed chair. In accepting this appointment, Bob Osgood insisted upon and obtained a concession from the Dean and Faculty of Medicine of the Harvard Medical School that henceforth eligibility for the title of Professor of Orthopedic Surgery should not be limited exclusively to the Chief of the Orthopedic Service at the Boston Children's Hospital, but that it should also be extended to the Chief of the Orthopedic Service at the Massachusetts General Hospital. He held this post until 1930, when he retired voluntarily, earlier than necessary, in order to make room for a younger man.

Dr. Osgood was a member of the Massachusetts Medical Society, the American Medical Association, the New England Surgical Society (past president, 1928–1929), the American Orthopedic Association (president, 1920–1921), the American Academy of Orthopedic Surgeons, and the American College of Surgeons. In 1925, he served as Hugh Owen Thomas Lecturer at the Medical Institute of Liverpool. He was a member of the International Society of Orthopedic

Surgery and Traumatology, Honorary Member of the Royal Society of Medicine in England, Honorary Member of the British Orthopedic Association, and Honorary Member of the Australian Orthopedic Association. As a member of the American Committee on Rheumatism, he helped to organize the American Rheumatism Association (president, 1944). He was the first Chairman of the Advisory Board of Orthopedic Surgeons to the Trustees of the Shriners' Hospital for Crippled Children. He was a member and later Chairman of the Advisory Committee for Services for Crippled Children of the Children's Bureau. He was a member of the Advisory Board of the Alfred I. duPont Institute and helped in planning its hospital. In 1943, he was made an Honorary Fellow of the Royal College of Surgeons, the Fellowship being conferred on him by Major General Sir William Heneage Ogilvie at the British Embassy in Washington. He was awarded the degree of Doctor of Science, *honoris causa*, by Amherst College in 1935.

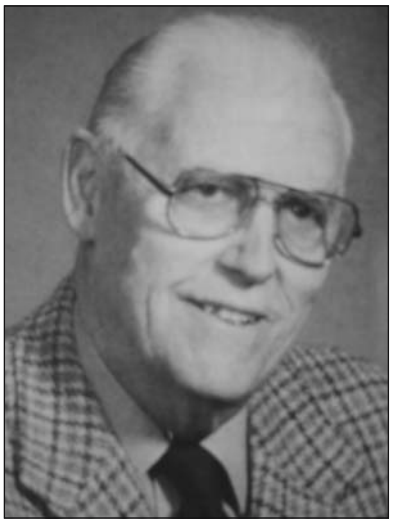
His former pupils and associates combined on the occasion of his 70th birthday to publish in the *Archives of Surgery* a special number dedicated to him; in the following year another group of pupils and associates united to arrange for the painting of his portrait by Mr. Samuel Hopkinson. This excellent work now hangs in the Massachusetts General Hospital.

Robert Bayley Osgood died on October 2, 1956, in Boston, at the age of 83. Dr. Osgood was married on April 29, 1902, to Margaret Louisa, daughter of Nathaniel Gates Chapin of Brookline, Massachusetts, who survived him. They had a daughter by adoption, Ellen. Bob and Margaret Osgood were exponents of the art of gracious living, of cordial hospitality, and of warm friendship.

Adolph Wilhelm OTTO

1786–1845

Adolph Wilhelm Otto was born in Greifswald, Germany, where his father, a physician, was a professor of natural history and a well-known ornithologist. He was educated in Frankfurt am Oder and Greifswald, where he graduated in 1808. Five years of postgraduate study were concluded with an extensive trip through medical clinics in Germany, the Netherlands, and France. Otto was made Professor of Anatomy and Director of the Anatomical Museum in Breslau in 1813. He published extensively in the area of pathologic anatomy, particularly teratology. With his textbook *Monstrum humanum Extremitatibus incurvatus. Monstrorum Sexcentorum descriptio anatomica in Vratislaviae Museum*, published by Anatomico-Pathologieum Breslau in 1841, Otto has been credited with the first clinical description of an infant with arthrogryposis multiplex congenital. He died in 1845 at the age of 59.



Ralph Edward OUTERBRIDGE

1920–1990

Ralph Edward Outerbridge was born September 19, 1920 in Kobe, Japan, of Canadian missionary parents. He received his early education at the Canadian Academy in Kobe, then came to Canada for his medical training. He graduated from the University of Toronto in 1936.

After interning at St. Michael's Hospital in Montreal, he left for China with his new bride, Margaret Kergin, in June 1938 to join the staff of the Canadian West China Mission. He acted as superintendent of mission hospitals in Junghsien and later in Tzeliutsing, Szechwan Province (Sichuan).

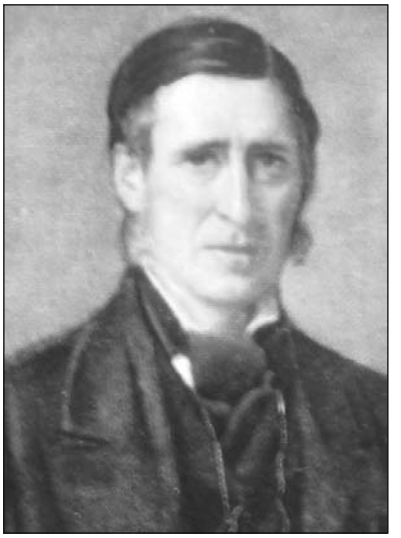
In 1946, Outerbridge returned to the University of Toronto for specialized training. After successfully completing his fellowship in orthopedic

surgery, he and his family returned to Chengtu in 1948, where he joined the staff of the West China Union University Medical College, where his specialty was pediatric surgery. Acutely aware of the impending change about to engulf China, he worked tirelessly to train young Chinese medical students to take over his work if he should have to leave suddenly. He was able to finish his training program days before he returned to Canada in early 1951.

In 1951, Outerbridge established a practice in New Westminster, where he joined the staff of the Royal Columbian Hospital. He played a key role in the establishment of their Department of Orthopedics. In addition to his own rapidly growing practice, he also was responsible for most of the trauma work in the Fraser Valley during the 1950s and early 1960s.

As a teacher, Outerbridge enjoyed the personal contact with his students. Many friendships were made that persisted through subsequent years. His astute observational skills led him to pursue areas of research with great enthusiasm. His work on chondromalacia patella led to the awarding of a Master of Science degree in the mid 1970s.

Ralph Outerbridge retired from orthopedics completely in 1986 and lived a full life until he died on August 8, 1990.



Sir James PAGET

1814–1899

Sir James Paget was a great surgeon of commanding authority during the greater part of the Victorian era. He was born at Yarmouth on January 11, 1814, the sixth child of Samuel and Elizabeth Paget. His father earlier in life was a man of affluence with interests in banking, brewing and shipping; in 1817 he was Mayor of the town. All his sons attended Mr. Bowles' school and the three elder went on to Charterhouse, but owing to a slump in the family fortunes, James and the younger sons finished their education privately. James, when 16 years old, started a four and a half years' apprenticeship to Mr. Charles Costerton, an active and energetic medical practitioner of Yarmouth. During this period, Paget had experience of the first epidemic of Asiatic cholera, read many works on medicine, and with other apprentices attended a class of osteology. But apart from his strictly professional training, there were two activities that helped him later as a teacher of surgery. He eagerly embarked upon the study of botany, including plant collecting, and he was taught drawing and painting by Young Crome. In both of these pursuits he was encouraged by his mother, herself a collector, and who had been taught painting by Old Crome, a friend of her husband's. Her skill was such that "some of her oil-paintings would anywhere pass for those of her master." James was to make good use of his artistic talent by sketching objects of natural history and pathological specimens, and by drawings for his surgical lectures. Further-

more, his botanical researches were sufficient to attract the attention of Dr. (later Sir William) Hooker, with whom he corresponded. In 1834, Charles and James Paget published the *Natural History of Great Yarmouth*, wherein the flora and fauna of the neighborhood are described. James contributed an introduction of 32 pages, which reveal his early power of observation and description.[1] Incidentally he touches on a natural preventive process of soil and coast erosion.

At the end of his apprenticeship he entered St. Bartholomew's Hospital in October 1834, when teaching at the school had declined after Abernethy's retirement. But Lawrence, the best scientific lecturer in London, and Stanley were very active in the affairs of the school. Paget became closely attached to both; their teaching and example had a considerable formative influence upon his development. He worked very hard at his studies, and having taught himself German, read Johannes Müller's *Physiologie*. His first year at St. Bartholomew's marked him out as an exceptional freshman. The examinations proved him the best student, and in addition he discovered a new entozoon, the *Trichina spiralis*. He had noticed that some dissecting room subjects had tiny white specks scattered in their muscles. Generations of dissectors had seen them and dismissed them as calcified tissue, but Paget, accustomed to having his curiosity aroused by natural phenomena, collected some of the tiny bodies for closer examination. Microscopes were rare; there was none at St. Bartholomew's, but he went to the natural history department of the British Museum, where Robert Brown, the distinguished botanist, was using a little single microscope, and Brown courteously allowed him the use of the instrument. Paget found that what appeared a tiny calcified body was in effect a "worm in its capsule." This observation aroused considerable interest. Richard Owen, later curator of the Royal College of Surgeons, read a paper on the trichina, while Virchow and others unraveled its life history. "It infects swine and is taken into the body by the eating of uncooked ham or pork, and its sudden multiplication and dissemination into the muscles cause intense suffering, high fever, and often death." But the trichina, "once it has become encysted in the muscles, undergoes no further change, and gives no clear sign of its presence in them."

In his second year, Paget was again the leading student, winning several prizes. On May 13, 1836, he became a member of the Royal College of Surgeons. At that time there was only one examination for this qualifying diploma. "The examination was very simple. The ten examiners sat at the outer side of a long curved table. Each in turn took a candidate, and when he had finished, others could ask questions." After qualifying, Paget decided to remain in London rather than return to Yarmouth, as his father suggested, although there was no prospect of any appointment at St. Bartholomew's. He went to Paris for 3 months and attended the lectures and clinics of Roux, Lisfranc, Cloquet and Magendie. On his return he had to maintain himself somehow. He tried coaching pupils, but soon found that he had neither the gift nor the liking for it, and he gave it up. In 1837 he was appointed curator of the museum at St. Bartholomew's Hospital, then a minor post, for which he received £100 the first year, but on his declining to give his whole time to the work, his salary was reduced to £40. He combined his museum work with medical journalism. He was appointed subeditor of the *Medical Gazette*, his main work consisting of reports of lectures, reviews and translations from French, German, Dutch and Italian journals. In addition he worked under Dr. (later Sir John) Forbes on the staff of the *Quarterly Review*. This was heavier and more serious work; he was responsible for the *Annual Reports on the Progress of Anatomy and Physiology*, which entailed a great deal of careful reading and criticism of world literature. Paget spent 7 years of waiting at this work, during which his average annual income was only £170. Ascetic by inclination and necessity, he confessed: "I was at times very poor; but I lived plainly and quietly."[8]

These appointments had serious disadvantages, for during their long tenure he was cut off completely from clinical surgery. But there was also much gain. He acquired a wide knowledge of medical science, was forced to be analytical in his judgments and clear in expressing ideas. His curatorship started that lifelong study of the intimate change in human tissues induced by disease. He revised and expanded the museum catalogue of St. Bartholomew's, and in 1842 began his great work of writing the *Pathological Catalogue of the Royal College of Surgeons Museum*. The magnitude of the task may be gauged by the fact that he described 3,520 specimens. "It certainly was laborious work and occupied some hours daily for seven years . . . I described every specimen as I saw it standing or lying before me: nothing was to be told but what could be then and there seen."

Somewhat less than half of the specimens were Hunterian; these were identified by Clift, who as a young man had been John Hunter's devoted assistant; the remainder had come to the museum from the collections of Sir Astley Cooper, Liston, Howship, and other surgeons.

Until 1843, Paget had ploughed a lonely furrow; he was poor and the future was unpromising. But suddenly that year the tide turned strongly in his favor. He received tokens of recognition that were particularly gratifying. First he was appointed lecturer in physiology, later warden of the new residential college for students at St. Bartholomew's and lastly he was elected an original fellow of the Royal College of Surgeons at the institution of the Fellowship in December. There was, however, one emotional check to felicity—the death of his mother, who, apart from maternal affection, had encouraged him in his earlier scientific studies. His lectures were carefully prepared, both with regard to their substance and form; they were well attended and were spoken about in other schools. Physiology as a science was in its infancy. The lectures provided the material for Kirke, Paget's pupil, to write his *Handbook of Physiology*, which many years later developed into Halliburton's well-known textbook. Paget regarded the wardenship with a sense of responsibility towards the students. Hitherto in the school there had been little help or direction given them in their studies, but Paget advised them how to work and watched particularly those in college, suffering no idleness or dissipation. He confessed: "I feel almost as if I had thirty sons rather than pupils to watch over." His care of them was reflected in their successes in the schools. In one winter session there came to him a batch of new students, among whom were (Sir) Jonathan Hutchinson, (Sir) Thomas Smith, (Sir) William Turner, and Elizabeth Blackwell, a rare vintage.

In 1884, he married Lydia, daughter of the Reverend Henry North, domestic chaplain to the Duke of Kent. She was a good musician who had trained under Crotch and Crivelli at the Royal Academy. They settled in the warden's house; here their children were born; their married life was ideally happy. In 1847, Paget was elected assistant surgeon to St. Bartholomew's Hospital. The same year he was appointed professor of anatomy and surgery at the Royal College of Surgeons. "It was a great and rare honour for the rule had been that some member of the Council should hold the professorship." He was re-elected annually for 6 years. His lectures were based on the work he had done in the museum during the years he was writing the catalogue. They dealt with the general pathology of the principal surgical diseases and had the peculiar merit of describing the minute changes in disease tissues as revealed by the microscope. They were published in two volumes in 1853 and are among the classics of surgery.[2] Two more editions appeared with the help of Sir Willian Turner, his old pupil.

In 1851, he resigned the wardenship and embarked upon private practice, settling at number 4 Henrietta Street, Cavendish Square, a house previously occupied by Sir Thomas Watson. His practice gradually increased until at last he had the largest surgical practice in London. This same year he was made a Fellow of the Royal Society; of the 15 candidates elected, he was the only one for whom the whole Council voted. Six years later, he gave the Croonian Lecture of the Society "On the Cause of the Rhythmic Motion of the Heart." Early in 1858, he moved to number 1 Harewood Place, Hanover Square, where he remained for the rest of his professional life. In March, he was appointed Surgeon Extraordinary to Her Majesty, Queen Victoria. In 1861, he succeeded Stanley as surgeon to St. Bartholomew's, and 4 years later was appointed lecturer in surgery; he had already resigned his lectureship in physiology. His surgical class soon became the largest in London. At this period he was working, even for him, harder than at any time in his life; there was scarcely any respite. In 1871, he had an alarming attack of blood poisoning contracted during a postmortem examination: at one time his condition was so desperate that his survival was very doubtful. When he recovered, he was warned to reduce his work. Submitting to this advice, he reluctantly resigned from the active staff of St. Bartholomew's. He was passionately devoted to the hospital; his forced resignation was a grief to him. It was 28 years since he had been appointed warden of the college and during that time he had never ceased working for the hospital. He raised the standard of the school by his lectures and his vigilance of its affairs, so that students came to it in increasing numbers. And as a pioneer of surgical pathology, he enhanced the prestige of hospital and school. He was appointed consultant surgeon. Soon afterwards Her Majesty the Queen conferred a baronetcy upon him. Illustrious names have been associated with this most ancient of all British hospitals, there was none more illustrious than James Paget.

Although the hospital phase of his work was over, his wider fame was only beginning. During the 20 active years that remained to him, he achieved a position inside and outside the profession that had scarcely been attained by any surgeon before him. It was early in this period that he described the two diseases that have made his name familiar to every medical student.

Paget's Disease of the Nipple

In 1874, Paget published a paper in *St. Bartholomew's Hospital Reports* on "Disease of the Mammary Areola preceding Cancer of the Mammary Gland."[6] It was a short paper, even shorter than that other classic by Colles on fracture of the wrist.

I believe it has not yet been published that certain chronic affections of the skin of the nipple and areola are very often succeeded by the formation of scirrhous cancer in the mammary gland. I have seen about fifteen cases in which this has happened, and the events were in all of them so similar that one description may suffice. The patients were all women, various in age from 40 to 60 or more years, having in common nothing remarkable but their disease. In all of them the disease began as an eruption on the nipple and areola. In the majority it had the appearance of a florid, intensely red, raw surface, very finely granular, as if nearly the whole thickness of the epidermis were removed; like the surface of very acute diffuse eczema, or like that of an acute balanitis . . . But it has happened that in every case that I have been able to watch, cancer of the mammary gland has followed within at the most two years, and usually within one year. . . . The formation of cancer has not in any case taken place first in the diseased part of the skin. It has always been in the substance of the mammary gland, beneath or not far from the diseased skin, and always with a clear interval of apparently healthy tissue.

Paget's Disease of Bone

In 1876, Paget wrote the most famous of all his papers, "On a form of Chronic Inflammation of Bones (Osteitis Deformans)," which was read before the Royal Medical and Chirurgical Society of London.[7] It was an exhaustive and complete description of the disease; detailed postmortem findings with results of microscopical examinations of the diseased bones were given. He noted the evolution of the disease in a patient during the 20 years from its early manifestation to its termination by sarcoma of the radius.

I first saw this gentleman in 1856, when these things had been observed for two years. Except that he was very grey and looked rather old for his age, he might have been considered as in perfect health. He walked with full strength and power, but somewhat stiffly. His left tibia, especially in its lower half, was broad, and felt nodular and uneven, as if not only itself but its periosteum and the integuments over it were thickened. In a much less degree similar changes could be felt in the lower half of the left femur. This limb was occasionally but never severely painful, and there was no tenderness on pressure . . . The left femur and tibia became larger, heavier, and somewhat more curved. Very slowly those of the right limb followed the same course, till they gained very nearly the same size and shape. The limbs thus became nearly symmetrical in their deformity, the curving of the left being only a little more outward than that of the right. At the same time, or later, the knees became gradually bent, and as if by rigidity of their fibrous tissues, lost much of their natural range and movement. The skull became gradually larger, so that nearly every year, for many years, his hat, and the helmet that he wore as a member of a Yeomanry Corps needed to be enlarged. . . . The shape and habitual posture of the patient were thus made strange and peculiar. His head was advanced and lowered, so that the neck was very short, and the chin, when he held his head at ease, was more than an inch lower than the top of the sternum. The short narrow chest suddenly widened into a much shorter and broad abdomen, and the pelvis was wide and low. The arms appeared unnaturally long, and, though the shoulders were very high, the hands hung low down by the thighs and in front of them. Altogether, the attitude in standing looked simian, strangely in contrast with the large head and handsome features. . . . In January 1876 he began to complain of pain in his left forearm and elbow which at first, was thought to be neuralgic. But it grew worse, and swelling appeared about the upper third of the radius and increased rapidly, so that, when I saw him in the middle of February, it seemed certain that a firm medullary or osteoid cancerous growth was formed round the radius. Still the general health was good. . . . *After this time* however, together with rapid increase of the growth upon the radius, there were gradual failure of strength and emaciation, and on the 24th of March, after two days of distress with pleural effusion on the right side, he died. . . . Holding then the disease to be an inflammation of bones, I would suggest that, for brief reference and for the present, it may be called after its most striking character: *Osteitis Deformans*. A better name may be given when more is known of it.

But more than a century later, no more is known of the origin of the disease, nor of its cure.

Quiet Necrosis of Paget

Paget drew attention to the possibility of necrosis of bone occurring as the result of trauma without inflammatory reaction; he offered the same explanation for the presence of certain loose bodies in joints; pathological conditions that are also referred to as avascular necrosis and osteochondritis dissecans. In 1870, he read a paper before the Clinical Society of London on "A case of Necrosis of the Femur, without External Inflammation."[5] A woman aged 19 years was admitted to St. Bartholomew's Hospital because of pain in the left knee.

> What seemed more important was that a hard swelling, of which the patient knew nothing, surrounded the middle of the shaft of the femur. The swelling felt of nearly ovoid form about six inches in length, it was in every part very firm and tense, hard pressure on it was painful especially in its middle part . . . it might be due to her frequently breaking thick pieces of wood across her thigh . . . I made an incision about six inches long in the outer part of the thigh. . . . All the textures cut through down to the outer surface of the periosteum appeared perfectly healthy; there was not in any of them the smallest sign of inflammatory change. . . . Between the periosteum and the bone the incision laid open a flattened irregular cavity from which a little blood-coloured fluid escaped and was followed by the protrusion of some soft substance like coarse granules. In this cavity which was from an inch to an inch and a half in its diameter was a thin rough sequestrum, separated from the wall of the femur about an inch and a quarter long and a quarter of an inch wide. . . . The central point of interest in this case is I think in the fact of necrosis, leading to separation of bone, being unattended with inflammation of any of the textures external to the periosteum or with more than a scarcely discernible amount of suppuration around the sequestrum. How unlike this is to the ordinary course of necrosis I need not declare.

Paget contributed another paper, entitled "On the Production of some of the Loose Bodies in Joints." It was published in *St. Bartholomew's Hospital Reports* for 1870.[4]

> I had occasion to remove a loose cartilage from a knee joint. The patient was sixteen, active, athletic, and except at his knee thoroughly healthy. . . . I extracted the loose body through a free incision into the joint, and the wound healed without trouble. This body looked exactly like a piece of the articular cartilage of one of the condyles of the femur. It was irregularly oval in outline, about an inch long, half an inch wide, and a line in thickness. On one surface it was convex and smooth, on the other concave and rough, and on this surface was a small prominent piece of bone, as if, with the cartilage a piece of the articular surface of the femur had separated. The borders of the loose body were smoothly rounded off. . . . These loose bodies are sequestra, exfoliated after necrosis of injured portions of cartilage, exfoliated without acute inflammation.

Paget described certain fibromata, in connection with aponeuroses, fasciae, and tendons, which recur with shortening intervals after repeated removal. They became known as recurrent fibroid tumors of Paget. They should be regarded as fibrosarcomata, although secondary growths are rare. The pathology of tumors was of continuous interest to him. The name fibroplastic had been given to a certain bone tumor that on the continent had been separated from others as being different in kind. Paget proposed the name "myeloid" for this tumor because of its multinucleated cells and its origin from bone marrow.

He also contributed to our knowledge of tendon repair. In 1849, he conducted a series of experiments on rabbits. Contrary to the opinion of previous workers in this field, he concluded that extravasated blood and inflammatory exudate took no part in repair of a divided tendon. He maintained that a semi-fluid substance was exuded between the retracted ends of the tendon, which quickly organizes, forming a "nucleated blastema." "In every experiment one finds cause for admiration at the manner in which a single well-designed and cord-like bond of union is thus gradually formed, where at first there had been a uniform and seemingly purposeless infiltration of the whole space left by the retraction of the tendon."

A clinical lecture by Paget, on "Cases that Bone-setters Cure," delivered in 1867, attracted considerable attention.[3] He indicated the clinical type of joint that would benefit by manipulation, which should always be carried out under anesthesia. He concluded by saying: "Learn then to imitate what is good and avoid what is bad in the practice of bone-setters. . . . *Fas est ab hoste doceri* which is in no calling wiser than ours."

During the last period of his professional life, Paget received all the highest honors. He occupied the chairs, at one time or another, of the Clinical Society, the Royal Medical and Chirurgical Society—and the Pathological Society—of London. He was elected to the Council of the Royal College of Surgeons in 1865 and was president 10 years later. His delivery of the Hunterian

Oration in 1877 was a memorable occasion. He spoke with amazing eloquence to an audience that included HRH the Prince of Wales, Gladstone, Dean Stanley, Lord Acton, Huxley and Tyndall. He paid tribute to John Hunter, who through no external advantage but through the force of his scientific mind, exercised a vast influence on surgery and made of it a profession commanding public respect. Paget was Bradshaw Orator in 1882, and for a time was Vice Chancellor of London University. In 1867 he became Sergeant Surgeon to Her Majesty the Queen. He reached the climax of his career in 1881, when he was president of the International Congress of Medicine held in London in that year. Those taking part in the discussions included Pasteur, Virchow, Charcot, Esmarch, Koch, Langenbeck, Volckmann and Ollier. The inaugural address of Paget was impressive.

His sound knowledge of morbid anatomy and his stress on the scientific basis of surgery made him a link between John Hunter and modern surgeons. His tact, courtesy, integrity and great eloquence made an appeal to the social world, where he counted as his friends leading figures of church and state in Victorian England. He was the recipient of honorary degrees from many universities, and was an honorary member of several scientific societies at home and abroad. He retired from practice in 1893 and went to live at number 5 Park Square West, Regent's Park. Here he died on December 30, 1899. He held settled religious convictions all his life; in the last hours of consciousness he received Holy Communion from his son the Bishop of Oxford. The first part of the funeral service was in Westminster Abbey, where he had borne the pall for Tennyson and Browning. He was buried in Finchley Cemetery.

Sir James Paget was one of the greatest of English surgeons. By precept and example he exercised an immense influence among surgeons of the Victorian era and he handed on the torch of scientific surgery, which was lit by John Hunter.

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Ambroise PARÉ

1510–1590

Ambroise Paré was the greatest surgeon of his century. He was born in Laval in northern France, where, it is thought, his father was valet de chambre and barber to a nobleman. At the time, barbers customarily performed such surgical procedures as blood letting. Paré's older brother was a barber–surgeon, and his sister had married a barber–surgeon. Poorly educated and knowing neither Latin nor Greek, but nonetheless ambitious, Ambroise Paré became a barber–surgeon through apprenticeship; he then served for 3 or 4 years as a "house surgeon" in L'Hôtel Dieu in Paris. His subsequent medical career was spent alternately on the battlefield with the French army during the interminable wars of the period and in practice in Paris during the frequent lulls in fighting.

Because of his intelligence, skills, and personality, Paré rose to become the surgeon to four

kings of France. His reputation and political position led to his admission to the College de St. Côme, the elite group of academic surgeons in France. In this manner he formed a bridge between the barber–surgeons, surgeons of the short robe, and the academic surgeons of the long robe. His accomplishments helped to launch the progression of surgery from a hereditary craft to an intellectual yet pragmatic discipline.

Because Paré was an accomplished and prolific writer, a great deal is known about his life, opinions, and practice. His books, written in French rather than the Latin of the academicians, enjoyed a wide circulation. His personal and autobiographic account, *The Apologie and Treatise of Ambroise Paré, Containing the Voyages Made into Divers Places*, gives a good description of the circumstances in which he practiced. His importance in the history of surgery has been delineated by Geoffrey Keynes.

Paré's contribution to surgery is usually summarized by mentioning his three important "discoveries"—the harmfulness of treating gunshot wounds with boiling oil, the use of the ligature in amputation, and podalic version in obstetrics—but in reality his contribution was far greater than this. He was, in fact, by virtue of his personality and his independent mind, the emancipator of surgery from the dead hand of dogma. There was no comparable practitioner, during his time, in England or in any other country, and his influence was felt in every part of Europe. He left in his collected "Works" a monument to his own skill and humanity, which is unsurpassed in the history of surgery.[1]

Of particular interest is Paré's description, the first, of intracapsular fractures of the femoral neck and epiphyseal separations of the proximal femoral epiphysis.

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Clayton PARKHILL

1860–1902

Clayton Parkhill was born in rural Pennsylvania. He attended the Jefferson Medical College in Philadelphia and graduated in 1883. After 2 years of postgraduate training, he opened his surgical practice in Denver. He taught anatomy at the University of Denver and became professor of surgery at the Gross Medical School. Later, he became professor of surgery and dean of the medical school at the University of Colorado in Boulder. An ingenious surgeon, he is remembered for his early contribution to the development of external skeletal fixation for the treatment of fractures. His medical career was interrupted by military service in the Spanish–American War, which took him to army camps throughout the south and to Puerto Rico. Shortly after returning to reopen his practice in Denver, he became ill. Appendicitis was diagnosed, and an operation was proposed. At this critical moment his surgical judgment failed. He refused the operation and died shortly afterward of peritonitis.

Arnold PAVLIK

1902–1965

Arnold Pavlik was born in Slavko, Czechoslovakia, not far from the field of the famous battle of Austerlitz. He studied at the university in Brno and later became an assistant to Frejka in the clinic in Bruno, where he had ample opportunity to observe the treatment of patients with congenital dislocations of the hip. In 1939, he became head of the orthopedic clinic in Olmutz and when, after World War II, the Palacky University was established, he was made professor of orthopedic surgery. Pavlik represented the second generation of orthopedic surgeons in Czechoslovakia, and he helped train many of the third generation. Pavlik became disappointed with the results of the treatment of congenital dislocation of the hip treated by immobilization in abduction because of the high incidence of aseptic necrosis of the femoral head. In his own clinic, he developed a functional method of treatment that permitted and even encouraged motion in the affected hip. The use of the so-called Pavlik harness required careful supervision and the active participation of the parents. However, as the experience of Pavlik showed, when applied early in infancy, the method could be remarkably successful and avoided the complication of aseptic necrosis of the femoral head.

Charles William PEABODY

1891–1963

Born in Malden, Massachusetts, April 30, 1891, Dr. Peabody was reared and educated in New England. His parents were Charles Newton and Flora Joslin Peabody. Peabody is a name that has been respected for many generations in Massachusetts. Some of the best in the history of New England was made by his Peabody forebears. He and others bearing this name have, in our time, spent their lives in service to mankind.

Dr. Peabody grew up in Malden, attended Malden High School, was graduated Bachelor of Arts from Harvard in 1912 and Doctor of Medicine in 1916. The MD degree was awarded by Harvard Medical School while he was on his way to France with the Third Harvard Surgical Unit. He served with the British Expeditionary Forces and later with the United States Army near Dunkirk, France.

While at Harvard he rowed well and earned his letter in the senior year. After college he rowed singles, winning the Union Boat Club Junior Single Challenge Cup in 1916 and also the Harvard Boat Club Single Skull Championship. He was an ardent devotee of tennis from his early youth and continued to be active on the courts until a few months before his death.

Although approximately one-half of his life, including most of the years of active practice of orthopedic surgery, were spent in Detroit, Dr. Peabody retained the characteristics inherited or acquired from his New England ancestors, including manner of speech, quiet reticence, strict

integrity, and a great love for the sea along the rugged New England coast. While making his home in Detroit, he, his wife, and children spent part of each summer in New England. He returned there to live in his retirement, and he was never more happy than when on his boat with members of his family as crew.

His branch of the Peabody family first settled in a seacoast town, Kennebunk Port, Maine. Several of his ancestors were sea captains. He named the 37-foot motor sailer, which he designed and had built to his specifications, the Abby Brown II. Captain Brown of Kennebunk Port, Maine, was a forebear of the Peabody family. His wife, Abby, accompanied him when he sailed his barkentine to China. During this trip Captain Brown rescued the crew of a dismasted English boat, which was adrift in the Atlantic. The crew were found to be suffering from scurvy and Mrs. Brown nursed them back to health. When the rescued crew were put ashore in London, the King and Queen invited Captain and Mrs. Brown to the Palace and thanked them for their care of the British seamen.

Dr. Peabody received his training in orthopedic surgery at Massachusetts General Hospital. In 1922, shortly after completing that residency program, he accepted an invitation to join the staff of the Henry Ford Hospital in Detroit, Michigan. He organized the department of orthopedic surgery. Subsequently he became surgeon-in-chief of the Detroit Orthopedic Clinic, and was on the staff of the Children's Hospital of Michigan. During his final years in Detroit, he was chief of the orthopedic service at the 600-bed Harper Hospital, where he was successful in developing an approved residency program in orthopedic surgery.

My first opportunity to know Dr. Peabody was in 1926 while I was an intern at the Henry Ford Hospital in Detroit. He was chief of the orthopedic service, and I was warned by some of the senior interns that members of the house staff assigned to that service had to work harder and longer hours than those on any other service. They were correct about that, but I consider my tour of duty on his service one of the most valuable experiences of my life. Instead of the usual 1 month, I was intern on his service for 2 months. Until that time I had planned to become a general surgeon. Before the 2 months were up, I knew that I could only be happy in my life work as an orthopedic surgeon. When I was permitted the service of my choice for my second year at Ford, there was never a moment of doubt. I have never ceased to feel in my heart genuine gratitude for the inspiring example and the sound basic introduction to orthopedic surgery that came from this opportunity to work with Dr. Charles Peabody. Dr. William Green, Dr. Leslie Mitchell, and many others received part or all of their orthopedic training under the guidance of Dr. Peabody.

Although he was 53 years of age, Dr. Peabody enlisted in the navy in 1944. The medical officer in command of the US Naval Hospital, Philadelphia, Pennsylvania, in a letter to the chief of naval personnel, said to him, "While on duty at this hospital as orthopedic surgeon and organizer of rehabilitation for orthopedic casualties, his work was invaluable. . . . and devotion to duty . . . outstanding." Later he served as chief of the orthopedic division at the Aiea Heights Naval Hospital, Pearl Harbor. He retired with the rank of Commander in the Medical Corps, US Naval Reserve.

After his retirement to Rhode Island, he continued his interest in teaching as a consultant at Rhode Island Hospital and Davis Park Veterans Administration Hospital in Providence.

Dr. Peabody was a Fellow of the American College of Surgeons, a member and for several years secretary of the American Orthopedic Association. He was also a member of the American Academy of Orthopedic Surgeons, the Central Surgical Society, and the Orthopedic Correspondence Club. He published more than 50 clinical and scientific papers.

Dr. Charles William Peabody, after a good and useful life, died in the Rhode Island Hospital, November 6, 1963, at the age of 72 years. Surviving were his widow, the former Miriam Church; a son, Dr. Charles Newton Peabody, a general surgeon of Framingham, Massachusetts; two daughters, Mrs. Miriam E. Gale of Cincinnati and Mrs. Ann Goldthwaite of Northport, Long Island; and a sister, Mrs. Florence Wade of Baltimore.

George PERKINS

1892–1979

George Perkins was born on September 22, 1892, an only child. He was educated at Herstmonceux School, Hertford College, Oxford, and St. Thomas' Hospital. He qualified in 1916 and joined the Royal Army Medical Corps. Within 2 years, in the East African Campaign, he had been awarded the MC and been captured by the Germans.

When he returned to the UK, he became house surgeon to Max Page and Percy Sargent—both surgical giants at St. Thomas' Hospital. He proceeded FRCS in 1921. After a time spent at the Military Orthopedic Hospital, Shepherds Bush, where he was in contact with Sir Robert Jones and Naughton Dunn, he became chief assistant to Rowley Bristow in the newly formed orthopedic department of St. Thomas' Hospital. He became assistant orthopedic surgeon in 1929, but in the meantime he had joined and resigned from the staff of the Royal National Orthopedic Hospital.

In September 1939, Perkins was recalled to the army and after a short and uncomfortable time in a Casualty Clearing Station in Dieppe he was invalided home in 1940. It took him most of the war time to regain his health, but in 1944 he joined the staff of Queen Mary's Hospital, Roehampton. He succeeded Rowley Bristow in 1946 as head of the department in St. Thomas' and in 1948 was appointed first professor of surgery at St. Thomas' and also remained as head of the orthopedic department until 1955, when he retired from the professorial unit, though continuing as orthopedic surgeon until he retired in 1957.

Such are the bare facts, but there was much more than that.

The years 1929 to 1939 were the great days of the orthopedic department of St. Thomas'. The force and power of Rowley Bristow, loyally assisted by George Perkins, could not be resisted and a powerful department grew up. Perkins was the "eminence grise," the assistant surgeon in the best sense of the words, whose assistance was based on loyalty and respect. This superb combination was broken by the Second World War.

In 1948, Perkins created a professorial department of surgery out of the tattered remains of the old surgical unit. This was an extremely successful innovation since he was essentially a clinical surgeon who was happiest when teaching the fundamentals of his subject in the clinic or at the bedside. His conception of the treatment of fractures is well known and continues to be practiced, but when he was first teaching his method, which did not require immobilization of the fracture, it was revolutionary.

Perkins had a realistic appreciation of his abilities and intellectual gifts, and it was just as well if his associates shared this evaluation. Although he was a persuasive teacher, he could not tolerate unquestioning adherence to tradition for its own sake and the Sister who looped a Samways tourniquet to the foot of the bed of one of his amputee patients "just in case" was left in no doubt that it was a silly thing to do.

I like to imagine George Perkins today walking (perhaps striding would be the more appropriate word) through the Elysian Fields. He might be reflecting how different they were from those at Lincoln's Inn but, since he always contrived to disregard his environment, I fancy his thoughts would be directed toward people and ideas. There might be perfunctory though friendly nods for the eminent shades of erstwhile colleagues such as Sir Robert Jones, Rowley Bristow and Sir Max Page, but his focus would be intent upon the men he had left behind: what had become of them and, more important, what of the ideas he had bequeathed to them?

Certainly he would not have cast a single backward glance at his own meteoric career. No more shall I. Those who wish to read of his brilliance at Oxford, of his military valor in two world wars, his headlong rise to fame, first as an orthopedic surgeon, then as professor of general surgery, of his masterly textbooks and piquant essays, or of

his prowess as a penetrating thinker and dynamic teacher, can do so elsewhere (*J Bone Joint Surg [Br]* 1973; 55-B:4–6). Immortality resides neither in paper panegyrics nor in stone statues; it is ideas that carry the seeds of survival, and it is as a matt of ideas that we will remember George Perkins.

He certainly had ideas on the subject of fractures, and these so far outstripped orthodox thinking as to be unacceptable to his contemporaries, or even to the juniors who trod in his progressive and iconoclastic footsteps. His single-minded insistence on function, leading to an apparent disregard for immobility and sometimes even for position, was too much for people to take in at a time when "plaster" and "immobilization" were the twin gods of fracture treatment.

Lorenz Böhler in Vienna and Sir Reginald Watson-Jones in England preached and practiced splintage, which had to be extensive, encasing both the joint above and the joint below the fracture; and which had to be prolonged, until the fracture was completely consolidated. Only today, with the increasing popularity of cast-bracing techniques, are fracture surgeons beginning to do what Perkins advocated and to appreciate fully the enormous value of allowing (no, the word is too passive for Perkins), of demanding active movement as early as possible and at every relevant joint. To him, movement at the fracture site did not represent an important problem; it would, he felt, be adequately controlled by muscles, and difficulties arose only at anatomical sites such as the femoral neck and carpal scaphoid, where one or both fragments were devoid of muscle attachments.

Much to the surprise of his colleagues, Perkins proclaimed Hugh Owen Thomas a genius. It seemed paradoxical therefore that he should discard the famous splint, together with its numerous modifications. But, he insisted, it was the traction and not the splint that was the quintessential feature of Thomas' treatment; and traction should be untrammelled. Only those who worked with Perkins could accept that so simple a method embodied so penetrating a truth. Most surgeons smiled pityingly and persisted with splints; naturally they had not given his technique a trial. Yet now, years after his retirement, his methods are being more and more widely used, and those who seek an uncluttered exposition of the fundamentals of contemporary fracture management can hardly do better than to read Chapter 3 of his *Fractures and Dislocations*, published in 1958.

As for the current school of rigid internal fixation, many assumed that Perkins, the apostle of traction, would oppose it. On the contrary, he embraced it—with enthusiasm. Indeed it was wholly appropriate that the very first Perkins Lecture at St. Thomas' Hospital should be given by Professor Maurice Muller on this very subject. Perkins saw its dangers clearly enough, but he welcomed eagerly the prospect of liberating joints; fixation that needed the additional support of an external splint he viewed with scorn (as I learned when he fractured his own ankle and I had to treat it).

His views on fractures exemplify only one facet of a mind, which, though wide-ranging, always cut straight through to the heart of a problem and scattered startling ideas in profusion. His aims were to clarify, to simplify, to provoke and to stimulate. To these ends he was prepared to devastate his opponents, to disturb his peers, and to exasperate even his protagonists. At clinical conferences his swiftness of thought and rapier-like verbal sallies kept those of us who worked with him always on tiptoe. We were sometimes apprehensive and occasionally dismayed by the staccato succession of ideas that seemed to threaten intellectual inebriation. Tireless himself, he demanded constant effort from those who would keep pace with him. Those who lagged behind were quickly lost to view; they thought him impatient, austere, almost forbidding. Those who stayed the course saw his true self: helpful, abundantly stimulating and with a warm friendliness hidden from the world at large.

After his devoted wife Jill had died, Elizabeth, his only child, and herself a doctor, provided him with a charming and comfortable home. But he has also left behind another family, of surgeons, who worked with him at St. Thomas' and at Pyrford. They are the custodians of his ideas.

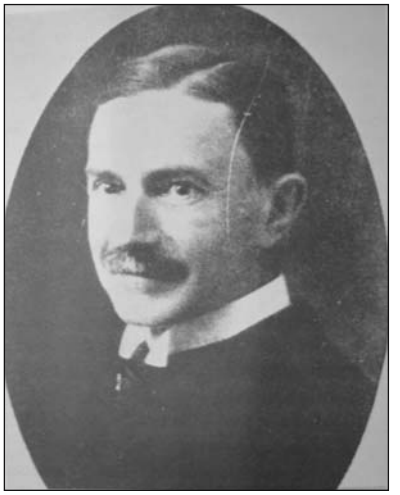
George Perkins' greatest service to the *Journal of Bone and Joint Surgery* was as true begetter of the British volume. He came to the presidency of the British Orthopedic Association in 1946 fully resolved that there must be created a proper British voice. He first raised the matter at a dinner of the Association and received wide support; informal discussion went so far as naming Watson-Jones as the obvious prospective editor. Perkins gained further support at a general meeting of the British Orthopedic Association in October 1946. These were the beginnings.

The American-owned *Journal of Bone and Joint Surgery* was the official organ of the British Orthopedic Association, but the British circulation was small and British articles rarely appeared, one long-standing source of dissatisfaction. Authors preferred indigenous journals; consequently the few communications submitted to the journal from the UK were usually deplorable and rightly rejected. The American sponsors also were unhappy about the journal, largely because its circulation had long been too small to sustain it and so its survival depended upon the great generosity of its sponsors besides the outstanding dedication of its successive editors, Elliot Brackett and William Rogers.

The familiar tale of friendly discussion between representatives of the bodies concerned does not need recapitulation. When there was a chairman he seems always to have been Perkins, and it was he who successfully brought proposals for joint publication to the British Orthopedic Association.

He also chaired the meeting that set up an independent British editorial board to include the editor and other officers besides representatives of Australia, Canada, New Zealand and South Africa, as well as the United Kingdom. Sir Harry Platt accepted its chairmanship in the initial stages, but then handed over to Perkins, who served till retiring in 1952.

In a number of the journal dedicated to George Perkins at that time, Sir Reginald Watson-Jones wrote: "He inspired the British Volume of *The Journal of Bone and Joint Surgery*. Without him there would probably never have been a British Volume of this Journal. He thought of it long before it started. In pursuing his thought he overcame every obstacle."



Georg C. PERTHES

1869–1927

Georg C. Perthes was born in the Rhineland and educated in Freiburg, Berlin, and Bonn. When his chief, Trendelenburg, moved to Leipzig, Perthes accompanied him. Shortly after, Perthes served in the expeditionary force sent to China during the Boxer Rebellion (1900–1901). Upon his return from China, he was made professor and director of the Surgical Polyclinic Institute in Leipzig, serving between the years 1903–1910. In 1911, he succeeded van Braunns as professor and director of the Surgical Clinic in Tübingen, where he finished out his career. He was a busy surgeon and also wrote on vascular and chest diseases and on maxillofacial injuries and war surgery. He was one of the early exponents of the clinical use of x-rays in Germany. Through his interest in tuberculosis, he became aware of those atypical cases that he separated from tuberculous hip disease and called *arthritis deformans juvenilis*, his first paper on this subject appearing in 1910. In a second publication he was able to describe accurately the gross and microscopic changes in a hip obtained at autopsy.

Winthrop M. PHELPS

1894–1971

Winthrop M. Phelps graduated from Princeton University in 1916 and from the Johns Hopkins Medical School in 1920. After serving a year of internship at the Johns Hopkins Hospital and another at Massachusetts General Hospital, he began his orthopedic training in the Harvard program at Boston's Children's Hospital in 1923. After his training, he joined the faculty of Yale University in 1926, becoming chairman of the Department of Orthopedic Surgery in 1931. Because of his interest in the problems of patients with cerebral palsy, he gave up this position and in 1936 went to Baltimore to establish the Children's Rehabilitation Institute. He remained associated with this Institute for the rest of his career. As a founding member of the American Academy of Cerebral Palsy and through his work in the Institute, he had great influence in bringing the problems of these patients to the attention of the orthopedic community. He pointed out the importance of a holistic approach, i.e. looking at each individual as a whole person rather than concentrating on specific mechanical or neurologic deficiencies. Phelps' paper on the classification and treatment of cerebral birth injuries, written early in his career, is considered by orthopedic historian Edgar M. Bick to be the most important publication on the subject since the original description of cerebral palsy by Little in 1862.

Dallas Burton PHEMISTER

1882–1951

Born on a farm near Carbondale in Southern Illinois, Dr. Phemister attended a country school and, after graduation from high school, continued his education at the Normal School of Northern Indiana. While there he decided to become a physician, and entered Rush Medical College of the University of Chicago, thus beginning an association with the university that was to be lifelong. After graduation from Rush in 1904, he served an internship at Cook County Hospital. He then entered private practice in LaGrange, Illinois, continuing at the same time his interest in teaching and research as a member of the Rush Faculty. In this period of American medicine, advanced training was available only abroad; so, after 5 years of practice, Dr. Phemister went to Vienna. Here began what became the most absorbing interest of his career—the study of the pathology of bone diseases. In 1911 he returned to Chicago to resume his teaching position at Rush, and established an association with Arthur Dean Bevan.

During World War I, Dr. Phemister served with the Presbyterian Hospital Unit, and at the end of the war returned to Rush Medical College, where he soon became professor of surgery. Although he carried on a large private practice, he devoted much time to teaching and laboratory research. Many of his contributions to the knowledge of bone and joint diseases, as well as to the field of general surgery, owe their inception to this period in his life.

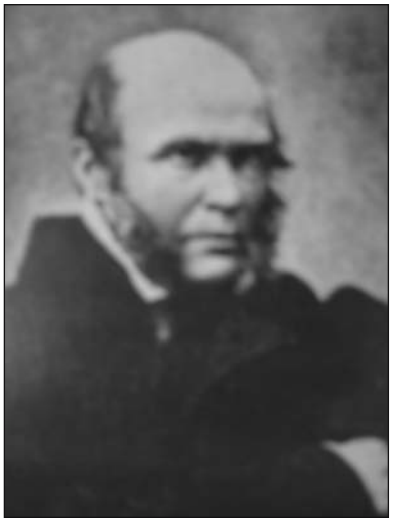
With the organization of the new medical school at the University of Chicago in 1927, Dr. Phemister entered upon the most significant work of his career. The university asked him to undertake the task of organizing a department of surgery, whose members were to devote all their time to teaching and investigation as well as to clinical work. Convinced that this concept of a full-time medical faculty was an important new principle, Dr. Phemister accepted the challenge. While awaiting the completion of the buildings of the university clinics, he went to Europe for further study. In London he began his work on operative shock, a subject to which he made contributions of the greatest importance through the subsequent years.

With the opening of the University of Chicago School of Medicine, came the most productive years of his career. Not only did he make many contributions to knowledge, but by his example, he stimulated others who came under his influence to do likewise. His research on bone tumors, infections, bone growth and repair, bone transplantation and aseptic necrosis of bone radically altered the surgical care of patients with skeletal disorders. Although bone and joint disease remained his primary interest throughout his life, other fields too were affected by his investigations. He was the first successfully to remove the esophagus, in case of carcinoma, with re-establishment of continuity by anastomosis with the stomach. His studies on the formation and constituents of gallstones were fundamental. His early recognition of the need for blood replacement in surgical shock helped to revolutionize the surgical management of patients injured or convalescent from operation and made possible the greatly expanded surgical treatment that we know today.

Dr. Phemister's own accomplishments in the medical sciences would alone be sufficient to earn him a high place in medical history. He was most profoundly influential, however, as a teacher. His personal qualities of intellectual honesty, tireless energy, generosity, dignity, and simplicity deeply affected all who came in contact with him. He taught always by example, whether dealing with undergraduate students, residents, or staff doctors. His forthright honesty and constant striving for improvement in knowledge and methods stimulated generations of students. To the many scientific societies in which he took an active part, he brought the same high qualities.

Dr. Phemister's achievements won him every recognition in the medical world. He occupied positions of distinction in the surgical societies of the United States and in international associations. Many foreign societies conferred honorary memberships upon him. These honors he received with characteristic humility and always with a deep sense of obligation. His greatest personal satisfaction was to observe the growth and success of a student or an associate.

On December 28, 1951, the medical world was saddened by the death of Dallas B. Phemister.



Nikolai Ivanovich PIROGOFF

1810–1881

Nikolai Ivanovich Pirogoff was one of the greatest surgeons of the nineteenth century. He is not well known in the English-speaking world since his contributions to the surgical literature were written in Latin, Russian, French, and German and have not been translated into English. His eponym is attached to an osteoplastic amputation of the foot in which the heel pad is affixed to the distal tibia utilizing a portion of the os calcis to form an end-bearing stump. In Russia, he had an enormous influence on medical practice and education.

Pirogoff was born in Moscow, the 13th child in his family. After a private primary education, he was admitted to the University of Moscow to study medicine. Then, as now, universities were centers of liberalism and opposition to

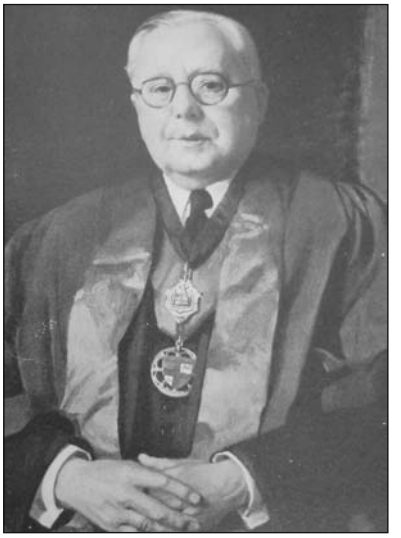
conservative governments. It was during his student days that Pirogoff developed a progressive point of view. The standard of medical education at the University of Moscow at that time was very poor. After graduation, he was selected for further training at the University of Dorpat in Estonia, where the teachers were mostly German. He stayed there for 5 years and during these years he studied anatomy and experimental surgery. He then had the opportunity to study for 2 additional years in Berlin and Gottingen.

Upon his return to Russia in 1835, Pirogoff hoped for an appointment as professor of surgery at the University of Moscows but was forced to accept a similar but less prestigious position at Dorpat. He stayed in this position for 5 years, with only a leave of 5 months for study in Paris in the clinic of Velpeau. In 1840, he became professor of surgery at the Medico-Chirurgical Academy in St. Petersburg. During the next few years, he established a reputation as the leading surgeon in the community as well as an outstanding teacher. With a mind always open to new ideas, he was one of the earliest European surgeons to adopt the use of ether anesthesia. In 1847, he described the administration of ether *per rectum* to produce anesthesia.

During the war in the Crimea, Pirogoff was made the Surgeon General in charge of the medical establishment in Sevastopol. With the help of the Grand Duchess Elena Pavlovna, he was able to introduce female nurses into the military hospitals at the same time Florence Nightingale was doing so in the British military hospitals. The collaboration of Pirogoff and the Grand Duchess laid the groundwork for the establishment of the Russian Red Cross. Pirogoff was the first surgeon to use plaster of Paris dressings for the treatment of fractures in war casualties. On the basis of his experience, he believed that open fractures should be immobilized in plaster of Paris dressings as quickly as possible and before evacuation to the field hospitals. The results of his work in the Crimea were incorporated in his book, *Principles of General Military Field Surgery*.

The period immediately after the Crimean war was one of frantic activity. During this period, Pirogoff published the description of his osteoplastic amputation (1854), a three-volume book on clinical surgery (1851–1854), and his important atlas of cross-sectional anatomy (1852–1859). This latter work, based on sections taken through frozen cadavers, was introduced as a teaching tool. It opened a new approach to the visualization of anatomic relationships and was widely adopted. Cross-sectional anatomy participated in the general decline of interest in gross anatomy on medical school curricula, but the introduction of computed tomography and nuclear magnetic resonance scans has revived interest in this aspect of gross anatomy.

In 1856, tired of the political battles and intrigues of the medical school, Pirogoff resigned his position and became the inspector of education of southern Russia. In this role, he traveled extensively and made a valiant effort to improve the educational system under his direction. Retiring 5 years later, he spent the next 5 years living in Berlin and Heidelberg. Upon returning to Russia, his liberal, western views were out of step with the trend toward conservatism following the assassination of Alexander II, and he retired. He died of a cancer of the mouth.



Sir Harry PLATT

1886–1986

Harry Platt, the eldest son of Ernest Platt, a master velvet cutter, and of Jessie Cameron Platt (née Lindsey), was born at Thornham, Lancashire, on October 7, 1886. His father later became chairman of United Velvet Cutters, Ltd, and both parents lived to be nonagenarians. Harry's life was dominated by the development of a tuberculous knee joint at the age of 5, though the diagnosis was somewhat delayed. As a result of this,

he was frequently confined to bed and his early education, which was notably catholic, was undertaken privately at home. He read widely and became quite fluent in French and German, as well as a highly proficient musician and pianist. The knee trouble precluded any active participation in sport, though his three younger brothers excelled in athletics. Despite the knee problem, he had a very happy childhood; but it is significant that, in later life, he remarked that his parents found it far harder to come to terms with his physical handicap than he himself did. Fortunately he was referred to Robert Jones, the internationally renowned orthopedic surgeon, for whom he formed a deep affection and from whom he received some of his later training.

Music became the passion of Harry's childhood, and in 1903 he prepared three compositions for the Mendelssohn scholarship, which was won that year by George Dyson (later Sir George), who went on to become a distinguished composer and principal of the Royal College of Music in London. After momentary indecision, and partly influenced by Robert Jones, Harry opted for medicine. On entering the Victoria University of Manchester without previous scientific training, he had great difficulty with physics and chemistry. He was in the same year as Geoffrey Jefferson, the distinguished neurosurgeon, and they remained lifelong friends. They recall that there were three women student contemporaries who were then kept completely separate in their studies! After an outstanding undergraduate career, he qualified in 1909 from both Victoria and London Universities and secured the gold medal in London. After resident and registrar appointments at Manchester Royal Infirmary with Sir William Thorburn, he demonstrated anatomy in Grafton Elliot Smith's department at Manchester. He later passed the mastership and fellowship examinations, and secured the MD, Manchester, with gold medal, for his thesis on peripheral nerve injuries. His orthopedic training was mainly at the Royal National Orthopaedic Hospital in London, and in Boston, USA, with Elliot Brackett and R.B. Osgood at Massachusetts General Hospital and the Children's Hospital, while he also observed Harvey Cushing's neurosurgery at Peter Bent Brigham Hospital. In the days before traveling scholarships, he depended upon his father's support and recalled how he had sailed from Liverpool to Boston on S.S. Franconia for £15 in a small first-class cabin. While in Boston he read voraciously the orthopedic journals in English, French and German, and deeply savored the musical and operatic life.

On returning to England in 1914, Harry was appointed surgeon to Ancoats Hospital, Manchester, where he organized the first special fracture department in Great Britain. On the outbreak of the First World War, he became a captain of the Royal Army Medical Corps and was appointed by Sir Robert Jones, the then army consultant in orthopedics, to be surgeon-in-charge of a military orthopedic center in Manchester. It was there that he acquired his considerable experience of nerve injuries and undertook studies in bone grafting. He showed great organizing ability and later described himself very truthfully as a contemplative man, more of a physician, and "not naturally a great craftsman." He later fostered many other institutions—the Ethel Hadley Hospital, Windermere, and the Children's Hospital at Biddulph Grange, Staffordshire. In 1920, he became consultant orthopedic surgeon to Lancashire County Council and surgical director of the Agnes Hunt Orthopaedic Hospital, Oswestry, and in 1932 orthopedic surgeon to the Manchester Royal Infirmary, subsequently to become its first professor of orthopedic surgery in 1939. He held all of these posts until his retirement and, with the inception of the NHS, he also served on the board of governors of the Manchester Royal Infirmary from 1948 to 1963. Between the two world wars, Harry sometimes claimed that he had won the Ashes for England in 1932, having declared one of Harold Larwood's knees as fit for the notorious "bodyline" tour.

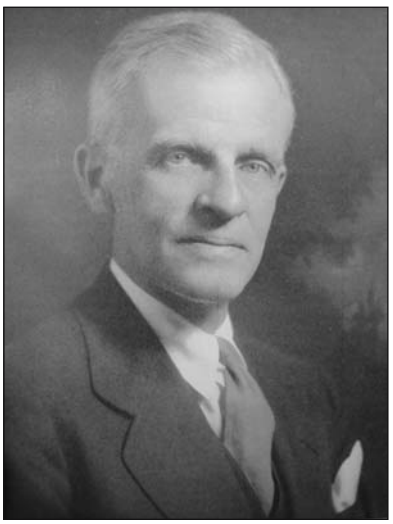
During the Second World War, he was consultant adviser in orthopedic surgery to the Emergency Medical Service and an active member of innumerable government committees and other public bodies after the war. He had been elected to the Council of the Royal College of Surgeons in 1940, serving there for 18 years and being vice president 1949–1950 and president 1954–1957. He had received the accolade of Knight Bachelor in 1948 and, as was then the custom, was awarded a baronetcy on completing the presidency of the College. He also became a member of the Court of Patrons of the College and an Honorary Fellow of the Faculty of Dental Surgery and, quite exceptionally, continued to serve on one College committee until well into his 80s, when he was also appointed a Knight of the Order of St. John. He received honorary degrees from the universities of Berne, Manchester, Liverpool, Belfast, Leeds and Paris; honorary fellowships of the surgical

colleges of America, Canada, South Africa, Australasia and Denmark, and honorary membership of the orthopedic associations and societies of most countries in the western world and of Latin America. He had been a founder member of the British Orthopaedic Association in 1916, its president in 1934–1935 and ultimately an Honorary Fellow. A founder member of the Société Internationale de Chirurgie Orthopédique et de Traumatologie in 1929, he was its president from 1948 to 1953; he was also president of the International Federation of Surgical Colleges 1955–1966, and its honorary president from 1970. He had been a founder member of the Association of Surgeons of Great Britain and Ireland in 1919 and was president of the Royal Society of Medicine from 1931 to 1932. He contributed to nine textbooks on orthopedic surgery and peripheral nerve injuries, and a list of all his publications is recorded in *The Journal of Bone and Joint Surgery*, Harry Platt Birthday Volume, 48-B, No. 4, November 1966.

As a man, Sir Harry displayed formidable energy and drive, both physical and mental, despite the handicap of a much shortened leg supported by an appliance. In early years he had a rather shy nature, married to considerable intellectual arrogance, making it difficult for many folk to get to know him well, though friends became more numerous as increasing age brought greater tolerance. Many were greatly amused and enlightened by his astringent—often acidulous—comments on colleagues and affairs in general. Privately it was his firm belief that a committee of one was the quickest way to get things done! But his many great qualities of mind and heart, his organizational ability and his far-seeing philosophical outlook more than compensated for any abruptness of manner on first encounter. He married Gertrude Sarah Turney in 1917 and they had one son, who is a barrister, and four daughters. His wife predeceased him in 1980 after 63 years of marriage, though for some time prior to her death she had been under institutional care. He continued to live alone with an ever lively mind and intellect, and he had a prodigious memory, even as he approached his century. Shortly before that, he gave a 5-hour interview to a reporter from the *British Medical Journal*, in which he showed a remarkable recollection of names and past events. His birthday was marked by an orthopedic festschrift attended by surgeons from many countries—not a few of international renown. A dinner was held at Manchester University on the evening of Tuesday October 7, 1986, attended by a company of 338, with all of whom he insisted on shaking hands while seated in his wheel-chair. After several speeches and presentations had been made, the hardy old warrior stood up and spoke for 25 minutes in a firm voice and without a note. A month later, in a last visit to his surgical Alma Mater, he was entertained to dinner in the council room by the president and vice presidents, and by four of the five surviving fellow past presidents. When he died a few months later on December 20, 1986, he was survived by his son, who inherited the baronetcy, and by his four daughters.

References

1. The Times 22 December 1986
2. Br Med J 1987, 294:129–130
3. Br Med J 1986, 293:864–866, Sir Harry Platt: 100 not out



William Ward PLUMMER

1877–1953

Dr. Plummer's activities in the orthopedic field had spanned the era of almost nonsurgical conservatism to that of the aggressive, brilliant accomplishments of the modern orthopedic surgeon. His ability was recognized by his membership in the leading orthopedic societies in the country and in his executive positions in them. He was a student and a teacher, occupying the

professorship of orthopedic surgery in his Alma Mater, the University of Buffalo, for nearly 25 years. His counsel was widely sought and his opinion highly regarded. Numbered among his friends both in his personal and professional life was a noticeable number of young men. They constantly sought and accepted his counsel and guidance. None could be more appreciative of the strength or more understanding of the weakness in men than he. Always kind, understanding, and helpful, he was at all times a gentleman.

He served in World War I and during World War II he was called as a civilian consultant. There was no activity in his career that he enjoyed as much as this assignment. He continued in this capacity with great sacrifice to his practice and to his health.

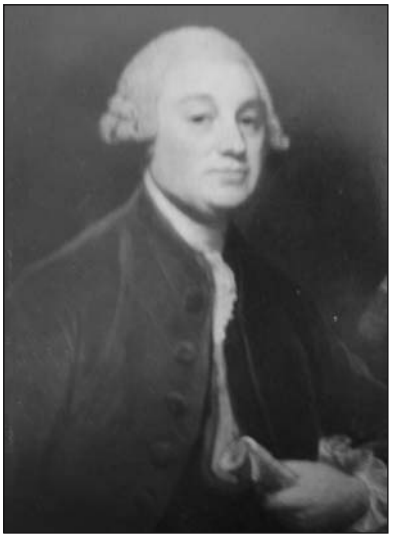
Dr. Plummer's contributions to orthopedic surgery were largely in his teaching and his care of patients. He was not a prolific writer, but the value of his writings was in their merit rather than volume.

Modern orthopedic surgery lost one of its strongest proponents when William Ward Plummer died, February 16, 1953. His 75 years had been well spent, but he paid no heed to them; he died a young man, regardless of his time of life. He was young in spirit, young in venture, and young in enthusiasm. He died disgusted with his physical infirmities, because they interfered with his mental activities.

Alfonzo POGGI

1848–1930

Alfonzo Poggi was chief of the surgical clinic in Bologna at the time he presented the classic paper: "Contribution to the Radical Treatment of Congenital Unilateral Coxo-Femoral Dislocation." It remains the first recorded case in a major journal, at least the first referred to in the mainstream of orthopedic literature in which surgical correction of a congenitally dislocated hip included reconstruction of the acetabulum.



Percivall POTT

1714–1788

Percivall Pott is perhaps the best-known English surgeon of the pre-antiseptic era. His fame in the eighteenth century has persisted and been maintained by clear descriptions of the injury and diseases of bone that are associated with his name. In him is to be seen the beginning of an attitude untrammeled by irrational obedience to the dictates and practices of the early fathers of medicine. He had great influence on the development of English surgery.

He was born on January 6, 1714, in Threadneedle Street, London. The house was subsequently pulled down and on its site an extension of the Bank of England was built. His father, a descendant of an old Cheshire family, died when he was only 3 years old, leaving a wife and child in somewhat straitened circumstances. The mother, anxious about the boy's education, received help from her relative, Dr. Wilcox, Bishop of Rochester, and Percivall was thus sent to a school at Darenth in Kent. Here he made good progress in the classics and it was thought that he might become a candidate for holy orders; but he was attracted to medicine.[1]

To secure entrance to the medical profession, apprenticeship to a regular practitioner was then necessary and most pupils became attached to an apothecary in private practice. Few probationerships were available at hospitals, but young Pott was fortunate, for in his 16th year he obtained a 7 years' apprenticeship to Edward Nourse, assistant surgeon to St. Bartholomew's Hospital,[2] paying 200 guineas for his indentures. Nourse lectured in anatomy and surgery at Barber–Surgeons' Hall and at London House in Aldersgate Street. For these lectures Pott dissected demonstration specimens and laid the foundation of the anatomical knowledge that later gave him so great an advantage over his contemporaries.

After apprenticeship to Edward Nourse, on "September 7, 1736, Percivall Pott was admitted to the Freedom of the Company (of the Barber–Surgeons) by service, upon the testimony of his master and was sworn." Later the same day "the said Mr. Percivall Pott was examined touching his skill in surgery in order to have the Great Diploma. His answers were approved, and he was ordered a Diploma under the seal of the Company and the hands of the Governors testifying his skill and empowering him to practise." The Great Diploma was a rare award and was granted only after very thorough examination; in some ways it corresponded to the present FRCS.

Pott took a house in Fenchurch Street, into which he moved with his mother and her daughter by her first marriage. A few years later he moved to Bow Lane and while practicing there took the livery of the Barber–Surgeons' Company and paid the usual fine of £10. In 1745, he was elected assistant surgeon to St. Bartholomew's Hospital, becoming full surgeon 4 years later.

In the year that Pott was appointed to the staff of St. Bartholomew's, the Barber–Surgeons' Company was dissolved by Act of Parliament after a partnership of 200 years. A few weeks after separating, the surgeons met together at Stationers' Hall as "The Master, Governors and Commonality of the Art and Science of Surgery," which body afterward became known as the Corporation of Surgeons. In 1751, they settled in their own quarters in the Old Bailey. Pott took a very active part in the affairs of the new Corporation and on July 5, 1753, its Court of Assistants elected him and William Hunter as the first Masters (or Lecturers) of Anatomy. Later Pott was appointed to other offices and in 1765 was elected Master (or Governor) of the Corporation.

When Pott began his work as hospital surgeon, there was little organized teaching of medical students in London. Samuel Sharp of Guy's gave a course of evening lectures on anatomy, surgical operations and bandaging to a Society of Naval Surgeons, which met at Covent Garden; and Edward Nourse gave occasional lectures on surgical principles at St. Bartholomew's. Percivall Pott was the first to introduce regular teaching of

clinical surgery at the bedside. He spoke of cures, mistakes and experience of other patients with similar disorders and such instruction drew many students around him, some of whom included John Hunter, Abernethy, Blicke and Earle. He also gave lectures in his own house in Watling Street, to which he had removed from Bow Lane, and the attractive manner of his delivery was testified by Sir William Blizzard when he said: "It was difficult to give an idea of the elegance of his language, the animation of his manner or the perceptive force or effect of his truths and his doctrines."

At the time that Pott was elected to the staff of St. Bartholomew's Hospital, he wrote a paper—"An Account of Tumours which rendered the Bones Soft"—which was published in the *Philosophical Transactions*. After that contribution he was silent for 12 years, but at the age of 43 an event occurred, which induced him to become a constant writer in surgery, whereby he gained worldwide fame. It was in 1756, while riding in what is now known as the Old Kent Road, that an accident befell him. Sir James Earle, his son-in-law and biographer,[3] relates that:

> He was thrown from his horse, and suffered a compound fracture of the leg, the bone being forced through the integuments. Conscious of the dangers attendant on fractures of this nature, and thoroughly aware how much they may be increased by rough treatment, or improper position, he would not suffer himself to be moved until he had made the necessary dispositions. He sent to Westminster, then the nearest place, for two Chairmen to bring their poles; and patiently lay on the cold pavement, it being the middle of January, till they arrived. In this situation he purchased a door, to which he made them nail their poles. When all was ready, he caused himself to be laid on it, and was carried through Southwark, over London Bridge, to Watling Street, near St. Paul's, where he had lived for some time—a tremendous distance in such a state! I cannot forbear remarking, that on such occasions a coach is too frequently employed, the jolting motion of which, with the unavoidable awkwardness of position, and the difficulty of getting in and out, cause a great and often a fatal aggravation of the mischief. At a consultation of surgeons, the case was thought so desperate as to require immediate amputation. Mr. Pott, convinced that no one could be a proper judge in his own case, submitted to their opinion; and the instruments were actually got ready, when Mr. Nourse, who had been prevented from coming sooner, fortunately entered the room. After examining the limb, he conceived there was a possibility of preserving it: an attempt to save it was acquiesced in, and succeeded. This case, which Mr. Pott sometimes referred to, was a strong instance of the great advantage of preventing the insinuation of air into the wound of a compound fracture; and probably would not have ended so happily, if the bone had not made its exit, or external opening, at a distance from the fracture; so that, when it was returned into the proper place, a sort of valve was formed, which excluded air. Thus no bad symptom ensued, but the wound healed, in some measure, by the first intention.

Sir D'Arcy Power thought that "the accident which Pott sustained was an open fracture of the tibia—spiral or very oblique—and that the nib-shaped end of the upper fragment penetrated the skin."[4] Bearing in mind the gloomy fate of a compound fracture up to the mid-Victorian era, Pott himself contributed greatly to the preservation of his limb and the good healing of his fracture by his foresight in safeguarding the leg from the moment of the accident until he reached his home.

Up to the time of his accident, Pott had recorded his experiences and investigations in the manuscripts of his lectures, but had published none of them. He took advantage of the leisure imposed by convalescence in preparing for publication and, once started as a writer, continued writing for over 20 years. His first work—"A Treatise on Ruptures"—appeared in 1756, followed by several others on diseases of the testicle, head injuries, curvature of the spine with lower limb palsy, fractures and dislocations.

Pott's Fracture

One of the important contributions to surgery by Pott was his monograph entitled "Some few General Remarks on Fractures and Dislocations," published in 1769. He opposed the existing treatment by continuous instrumental traction, which was irksome and fatiguing. He asserted that a fracture could be best reduced and correction maintained by keeping the limb in such a posture that the muscles were continually relaxed. This teaching had a far-reaching effect, for Pott's method of treating fractures was generally adopted in England and it prevailed for several generations. In this monograph he also described the fracture–dislocation of the ankle that now bears his name, with an illustration of the resulting valgoid-displacement of the foot and a drawing of the skeletal injuries responsible for it. His ascription is quite impersonal and he makes no mention of the fracture that he himself sustained. In consequence there has been some

misapprehension as to the nature of Pott's accident. His classical description of the ankle fracture–dislocation, and his reticence about his own fracture of the tibia at a higher level, have misled many to believe that in describing the ankle injury he was speaking of something within his own intimate experience. This misconception has helped to fasten his name to the fracture–dislocation.

Pott's Disease

The best known of Pott's contributions to surgery was his treatise entitled "Remarks on that kind of Palsy of the Lower Limbs which is frequently found to accompany a Curvature of the Spine and is supposed to be caused by it." It was published in 1779 and was translated into French and Dutch; the disease that it described became known on the continent as "La maladie du Pott." This monograph reveals his ability as a clinical observer and the lucidity of his diction. He painted these patients with their symptoms and signs with so sure a touch that we can add nothing to the picture. He differentiated between flaccid and spastic paralysis and noted that spasticity was the invariable rule of spinal cord pressure in spinal caries. He said:

> The disease of which I mean to speak, is generally called a palsy, as it consists in a total or partial abolition of the power of using, and sometimes of even moving the lower limbs, in consequence, as is generally supposed, of a curvature of some part of the spine. To this distemper both sexes, and all ages, are equally liable. . . . Until the curvature of the spine has been discovered, it generally passes for a nervous complaint . . . . I have in compliance with custom called the disease a palsy . . . yet there are some essential circumstances in which this affection differs from a common nervous palsy: the legs and thighs are rendered unfit for all the purposes of locomotion and do also lose much of their sensibility, but they have neither the flabby feel, which a truly paralytick limb has, nor have they that seeming looseness at the joints, nor that total incapacity of resistance, which allows the latter to be twisted in almost all directions; on the contrary the joints have frequently a considerable degree of stiffness, particularly the ankles, by which stiffness the feet of children are generally pointed downward, and they are prevented from setting them flat upon the ground.

A second essay was published in 1782, in which Pott dealt mainly with the morbid anatomy of disease of the spine, accompanied by engravings illustrating the changes that occurred in the vertebrae. He concluded that the disorder had its origin elsewhere in the body: the disease was scrophula, and was capable of revealing itself in a variety of organs. To give it a modern terminology, tuberculosis is an infective disease with local manifestations.

The treatment of spinal disease had been directed toward the straightening of the kyphosis and was attempted by means of "steel stays, the swing, the screw chair and other pieces of machinery." Pott had observed that no permanent good purpose had been served by these procedures and he deliberately made no attempt to correct the deformity. This was a new departure in treatment and was the first sign of understanding of the natural process of cure by osseous fusion through vertebral collapse. But he was persuaded, partly by the inspiration of Hippocratic teaching, to form an artificial sinus by applying caustic to the skin on each side of the gibbus in the belief that a prolonged flow of exudate had curative value. He seemed confirmed in his view by the frequent relief of paralysis in patients submitted to this operation. It was not performed with the object of draining an abscess, and indeed there seldom is any superficial abscess in Pott's paraplegia. But he did cure the patients in another way. The artificial sinus imposed recumbency, and in consequence of prolonged rest the paralysis disappeared. Pott, like many of his successors, failed to realize the decisive importance of rest. It was not until nearly a century later that the value of rest in joint tuberculosis was formulated by Hilton and Hugh Owen Thomas.

Pott's Puffy Tumour

Pott took considerable interest in head injuries. In 1760 he published a monograph entitled "Observations on the Nature and Consequences of Wounds and Contusions of the Head, Fractures of the Skull, Concussions of the Brain, etc." This was followed in 1768 by another monograph, and two further editions of the work appeared later. These productions were prepared carefully and bore evidence of extensive reading of Latin and French writings on the subject. He did much to simplify trephining of the skull and advanced the knowledge of the morbid anatomy of cerebral injury. His publications included abundant case histories, which are interesting apart from their main purpose; his delightful narrative touches upon the occupations, social habits and customs

of ordinary people in the eighteenth century. The particular scalp swelling or puffy tumor that he described is referred to in this paragraph:

> If the symptoms of pressure, such as stupidity, loss of sense, voluntary motion, etc., appear some few days after the head has suffered injury from external mischief, they do most probably imply an effusion of a fluid somewhere; this effusion may be in the substance of the brain, in its ventricles, between its membranes, or on the surface of the dura mater; and which of these is the real situation of such extravasation is a matter of great uncertainty; none of them being attended with any peculiar mark, or sign that can be depended upon, as pointing it out precisely; but the inflammation of the dura mater, and the formation of matter between it and the skull, in consequence of contusion, is generally indicated and preceded by one which I have hardly ever known to fail; I mean a puffy, circumscribed, indolent tumour of the scalp, and a spontaneous separation of the pericranium, from the skull under such tumour. These appearances therefore following a smart blow on the head, and attended with languor, pain, restlessness, watching, quick pulse, headache, and slight irregular shiverings, do almost infallibly indicate an inflamed dura mater, and pus, either forming or formed between it and the cranium.

Pott's contributions to the knowledge of head injuries did much to establish him as one of the leading surgeons of his day.[5] But apart from these familiar eponymous disorders, a mass of scientific knowledge deriving from Pott has long since been incorporated in surgical literature. One instance is chimney-sweep's cancer, which he was the first to describe; he was the first to point out the carcinogenic properties of soot on man. The experimental verification of Pott's observations on the production of cancer in mice by soot irritation was accomplished by Passey in 1920. Moved by the misery of the chimney-boys, he drew the attention of profession and public to the evil nature of their occupation:

> The fate of these people seems singularly hard; in their early infancy, they are most frequently treated with great brutality and almost starved with cold and hunger; they are thrust up narrow and sometimes hot chimneys where they are bruised, burned and almost suffocated; and even when they get to puberty become peculiarly liable to a most noisome, painful and fatal disease.

The employment of chimney-boys was eventually made illegal by Act of Parliament. It is almost incredible that even today there should exist a link with this degrading custom, but a centenarian still lives who at the age of 12 worked 15 hours a day, climbed the insides of chimneys, and swept down soot with a hand brush.

The humane disposition of Percivall Pott was displayed in other ways. Before he joined the staff of St. Bartholomew's, extensive use was made of escharotics and the actual cautery, but Pott condemned the practice and ultimately succeeded in abolishing it. Furthermore, he contrived to render surgical treatment as mild as possible, consistent with efficiency; and this principle was reflected in his use at operations of a reduced number of instruments of simple design. These reforms were greeted with some contempt by his colleagues who were accustomed to elaboration of technique but Abernethy, a warm admirer, testified to Pott's consideration for the ease and comfort of his patients.

He also had a kindly heart toward his dressers, some of whom he took into his own home. He took a leading part in improving the instruction of students. His lectures were open to all on payment of a small fee and they were well attended. He facilitated the diffusion of surgical instruction by selling his own publications at low cost instead of in the conventional form of heavy and expensive volumes. His monograph on palsy of the lower limbs in spinal curvature consisted of 83 pages and cost one shilling and sixpence, and this venture paved the way for cheap medical textbooks.

Judging by portraits of Pott, he had a pleasing appearance, and dressed according to the fashion of the period, visiting the hospital in his powdered wig, red coat and buckled sword. In the words of Earle he was "elegant, lower than middle size." He was an excellent conversationalist with ready wit and a fund of anecdotes. He was a devoted son, and made a home for his mother until her death in 1746, after which he married the daughter of Robert Cruttenden, by whom he had five sons and four daughters. In 1769 he bought a house near Lincoln's Inn Fields and resided in it for 7 years, when he moved to Prince's Street, Hanover Square. At this time Sir Caesar Hawkins, who was reputed to have the best surgical practice in London, retired and Pott succeeded him in professional favor.

For the next 10 years, Pott was much in demand as a consultant and, apart from his hospital work, he kept up a large correspondence with surgeons and practitioners who sought his opinion and advice from all over the world. He

was the recipient of many distinctions: in 1764 he was elected a Fellow of the Royal Society; the next year he was appointed Master of the Corporation of Surgeons; in 1786 he was elected the first Honorary Fellow of the Royal College of Surgeons of Edinburgh and the year after that an Honorary Member of the Royal College of Surgeons in Ireland. These last two honors were conferred upon him at about the time of his retirement from St. Bartholomew's Hospital on July 12, 1787, after having, as he said, "served it man and boy for half a century." At the annual meeting of the hospital subscribers, he was elected a governor and at dinner that followed there was a moving scene. The Right Honorable Thomas Harley proposed the toast of Percivall Pott, who was usually composed and eloquent, but on this occasion was overcome with such emotion that, after rising to reply, was unable to speak and resumed his seat in silence.

He continued to practice, but his retirement lasted only about 18 months. On December 27, 1788, he died of pneumonia due to a chill he caught while visiting a patient in severe weather 20 miles from London. His last conscious words were: "My lamp is almost extinguished; I hope it has burnt for the benefit of others." He was buried at Aldermary Church in Bow Lane, close to the remains of his mother.

Percivall Pott was a great leader in surgery who shone as a clinical surgeon. He flourished before the emergence of surgical pathology under John Hunter, and the deductions from his clinical observation suffered from this lack of scientific interpretation. He was, however, particularly free from the shackles of tradition and was bold enough to cut a path of his own. In a sense he was more acquainted with the practice of surgery than Hunter but he lacked, as they all lacked before the coming of Pasteur and Lister, the one key that saved surgery from being a tragic adventure.

Percivall Pott is an outstanding figure in the evolution of surgery in Britain. He took part in the formation of the Corporation of Surgeons and became its Master, started organized teaching of medical students, and by his humane attitude, good sense and personal integrity helped greatly to raise the status of surgery in this country. His writings were clear and composed with scholarly grace, and his observations recorded faithfully without being tedious. Their translation into European languages did much to promote the prestige of British surgery abroad.

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Kenneth Hampden PRIDIE

1906–1963

Born in Bristol, educated at Clifton College and the University of Bristol, Ken was a true son of that ancient city, in which he spent his whole life and to which he contributed considerable luster, both in orthopedic surgery and in sport. K.P. was an impressive personality, a character in the best sense of the term, and his life and work depict the originality of his mind. Once equipped with his Fellowship of the Royal College of Surgeons of England, he made comparatively brief visits to Böhler's clinic in Vienna, to Watson-Jones' fracture clinic in Liverpool and to Girdlestone at Oxford, and by the age of 28 was appointed assistant fracture surgeon at the Bristol Royal Infirmary, to become the first surgeon in Bristol to devote himself entirely to orthopedic surgery. His

ability, enthusiasm and boundless energy led to his early recognition in Bristol and in many centers throughout the country as one with an important contribution. In these early days he worked closely with the late E.W. Hey Groves, who had recently retired from the Bristol General Hospital. Hey Groves frequently visited the fracture clinic and these two personalities, with much in common, would have long and entertaining arguments, Ken being typically uninhibited even in the presence of this doyen of orthopedic surgery. Throughout his life he retained a great admiration for Hey Groves, to whose inspiration he always felt he owed so much, and who had, even in those early days, already successfully performed most of the technical innovations of recent years.

The fracture clinic grew in numbers and reputation, and in spite of poor premises, became one of the best known in the country. Ken Pridie also took a leading part in extending the activities of Winford Orthopaedic Hospital to include adult patients, and this expansion was accelerated by the exigencies of war. He spread his influence by setting up clinics in Bridgwater, Burnham-on-Sea and Tetbury hospitals.

In these early days K.P. seldom missed a meeting of the British Orthopaedic Association, which he enlivened by his frequent interventions, something sadly missed in recent years. To see his massive form advance toward the rostrum would stimulate flagging interest, and a smattering of overstatement would only whet the appetite. He was a forthright and colorful speaker, with a great aptitude for quotation and a pleasant wit. He was never ashamed to ask questions or confess ignorance and, in spite of a formidable exterior, always retained an engaging humility. His contributions to the literature were not numerous, and those who worked with him know that his ideas and practices should have had a wider circulation and that he could have written more to our great benefit.

He was original in thought and practice and always averse to the slavish following of established methods. He welcomed innovation and never became set in his ideas, even in fields to which he had contributed a great deal. He was always showing new interests and attacking new problems with a youthful enthusiasm and vigor. Some of his most valuable contributions comprised the application of engineering and carpentry to orthopedic surgery: the traction beam with square rods throughout, to obviate the rotation of pulley fixtures—usually ineffectively held by the overworked thumb screw; the grapple attachments to enable it to be fixed readily to any type of bed; the wooden frame for holding the leg with knee bent, so controlling rotation and simplifying radiography in fractures of the neck of the femur; the frequent use of the Forstner augur bit, as in his operation to fuse the ankle; the widespread use of staples; the excellent ball-cutter for the acetabulum in hip arthroplasty, comprising a tool far superior to any other designed for this purpose; and many ingenious modifications to instruments that have enhanced their effectiveness. He was a true disciple of Hey Groves.

The techniques favored by K.P. were simple and he eschewed the elaborate and complicated, whether in theory or practice. He was a beautiful operator and always a courageous one. Although full of vision and enterprise, his practice always remained sound, held in check above all by the kindness of heart that preserved his patients from too much surgery and from that painful elaboration of after-treatment that one sometimes meets. Although his interests in orthopedic surgery were widespread, his best known work was in the treatment of fractures and in osteoarthritis of the hip and knee. "New hips for old" was his challenging call in an article on arthroplasty.

In the field of sport, K.P. was outstanding. He was the university heavyweight boxing champion in 1925–1926 and played regularly in the pack for the Bristol Rugby Club between 1929 and 1934. It was in shot putting, the discus and in hammer throwing that he was best known. He held the record as Midland shot-putting champion from 1931 to 1951, and broke the British native record for discus in 1931. He represented England in the Empire Games in 1930 and 1934 and was selected for the Olympic Games in 1932, although he was unfortunately prevented from participating.

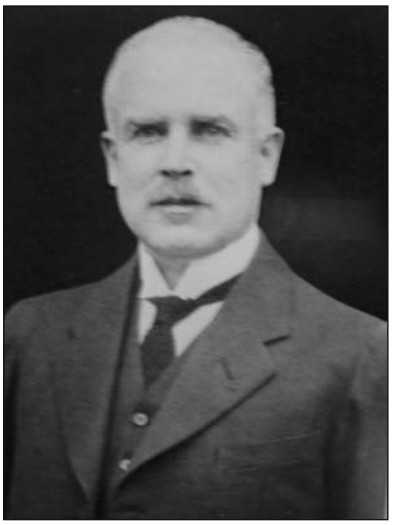
For all his eminence in orthopedic surgery and athletics, it will be as a man that K.P. will best be remembered; his infectious enthusiasm made one feel better for being in his company. His witty sayings, kindly humor and simple tastes endeared him to the children of his colleagues and most certainly to all of his delightful family of seven children.

He was utterly devoid of malice, with a very kind heart set in a powerful physique and controlling a strong personality, a man of integrity and warmth and the staunchest of friends. He was content to devote his undoubted talents to furthering orthopedic surgery in Bristol and was not

a seeker after high places. He was not a "committee man" but could be irritating and irrepressible in committee, usually presenting some aspect of the subject normally ignored yet worthy of further consideration.

His originality and personality brought numerous overseas visitors to Bristol and many were privileged to be entertained by K.P., with Joanna his wife and the seven children, at *The Chalet*, their country resort with a few acres of woodland, perhaps to participate in a barbecue or in the felling of trees, but certainly in some vigorous open-air occupation that was so dear to his heart. Others might meet the Pridies in the Isles of Scilly, where swimming and boating were the regular holiday activities based on their diminutive holiday abode on St. Mary's.

Kenneth Pridie, Lecturer in Orthopedic Surgery at the University of Bristol and Senior Orthopedic Surgeon at Bristol Royal Hospital and Winford Orthopedic Hospital, died suddenly on May 4, 1963, at the age of 57 years while reading a paper to the South-West Orthopedic Club meeting at Exeter. He had had to reduce his activities since the first evidence of cardiac insufficiency in 1962 and appeared to be doing well until shortly before his death, when friends were alarmed by news of heart failure, but he insisted on giving his paper on anterior fusion of the cervical spine.



William Thomas Gordon PUGH

1872–1945

William Thomas Gordon Pugh was the Medical Superintendent of Queen Mary's Hospital for Children, Carshalton, from 1909 until his retirement in 1937. Originally a physician, he became interested, of necessity, in children's orthopedics, and during those 28 years established and directed one of the first two long-stay children's country hospitals in the south of England. Both Pugh and his hospital became well known for the management of skeletal tuberculosis and poliomyelitis.

Pugh is best remembered for his "traction by suspension" and for his "Carshalton carriages," which were the tools he used to diminish the destructive changes so manifest in tuberculous joints treated without traction.

William Thomas Pugh was born in 1872 at Hodley, a village in Montgomeryshire. In 1899 he adopted by deed poll the additional Christian name of Gordon. He was educated at Ardwyn School, Aberystwyth, University College, Aberystwyth, and the Middlesex Hospital Medical School, where he was entrance scholar and subsequently Lyell Gold Medallist in practical surgery, Senior Broderip Scholar and Governors' Prizeman. He qualified in 1894 and graduated the following year with first-class honors in surgery and honors in medicine and obstetrics. After the customary junior appointments at his teaching hospital and in children's work, he joined the fever service of the Metropolitan Asylums Board in 1897. The following year he gained the MD and in 1907 became

Superintendent of Gore Farm Hospital (now the Southern Hospital) at Dartford in Kent. During 1905 he had described a simple staining technique, using toluidine blue in absolute alcohol and glacial acetic acid, for the detection of the diphtheria bacillus by demonstration of its Babès-Ernst bodies or polar granules.[2]

In 1909, as a result of his expressed views on the need for children's country hospitals, he was appointed first Medical Superintendent of the Children's Infirmary at Carshalton, which was, with royal approval, redesignated Queen Mary's Hospital for Children in 1914. Here he remained for the rest of his professional career. He retired in 1937 and died at Boscombe, Hampshire, 8 years later.[1] By 1919 his reputation was so established in orthopedics that he became a member of a select orthopedic club in company with McRae Aitken, Blundell Bankart, Rowley Bristow, Reginald Elmslie, Laming Evans, William Trethawan, Jenner Verrall and Thomas Fairbank. In 1926 Pugh was president of the orthopedic section of the Royal Society of Medicine. He was an early member of the British Orthopedic Association, and in 1935 he was elected to the Fellowship of the Royal College of Surgeons of England.

When Pugh arrived at Carshalton, the hospital, which had been completed by the Metropolitan Asylums Board in 1907, consisted in the main of 24 single-storey ward blocks with over 900 beds. The buildings were originally intended for a convalescent fever hospital but had never been occupied. They were situated in 136 acres of parkland on the Surrey Downs. Pugh modified some of the ward blocks in order to provide an operating theater, gymnasium and appliance workshop.[3] The reduced bed complement was made up by constructing verandahs around the courtyards on the south side of each ward block in which 300 children might live, day and night, summer and winter, continuously in the open air. Children who required prolonged inpatient treatment were accepted from the whole of the London area on the authority of the boards of guardians and the London County Council. Under Pugh's guidance, special units were set up within the hospital to care for children with skeletal tuberculosis, poliomyelitis, cerebral palsy and rheumatic fever. The undulating countryside provided ideal conditions for the open-air treatment of skeletal tuberculosis so popular at that time. In addition, enforced rest, adequate diet and conservative surgery, which included the aspiration and incision of abscesses, were the mainstays of treatment. Pugh accepted a trial of heliotherapy (sunshine) and phototherapy (carbon arc lamp), but was not convinced of their efficacy;[4] however, he was more impressed with the use of radium in the treatment of tuberculous cervical adenitis.[5]

Gordon Pugh is best remembered in orthopedic circles for his methods of overcoming deformity and of maintaining enforced rest of the tuberculous hip and spine. In 1924 he introduced into England "traction by suspension" for the treatment of tuberculosis of the hip at the suggestion of Dennis W. Crile of Chicago.[6] The method had first been described by Josse of Amiens in 1836 for the treatment of fractures of the femur, and Pott and Petit had experimented with inclined planes and gravity in the eighteenth century.[10] Pugh had not been satisfied with the ability of weight traction to abolish deformity caused by spasm around an inflamed hip joint.

The original apparatus used at Carshalton consisted of a fracture board and mattress on which the child was placed with the feet towards the head of the bed. Skin extension was applied direct to the affected limb, the extension straps were secured to the fracture board and, by attaching it to the head rail, the child was tilted head down by about 30 degrees. Lateral rotation of the limb was prevented by a sandal attached to a horizontal wooden bar, and a further wooden bar was placed under the mattress at knee level to prevent backward subluxation of this joint. One night of "traction by suspension" usually sufficed to correct hip deformity caused by muscle spasm. The child was allowed relatively free mobility on the bed but was prevented from turning over by a chest band. Pugh had difficulty in finding a suitable skin extension to withstand prolonged traction. Initially, and with success, he used two large moleskin plasters, which enveloped the thigh. These were later replaced by two layers of stockinette fixed to the thigh by zinc–gelatin paste, which gave fewer skin complications.

Pugh also modified Robert Jones' abduction frame to give traction by suspension in patients with advanced tuberculosis of the hip in whom the desired result was ankylosis in the best position rather than a mobile joint, as was often obtained by "Pugh's traction" in early cases. In the early 1920s, the first tip-up hip carriage was produced and this was essentially the fracture board on wheels, elevated to 30 degrees from the horizontal.

For the treatment of spinal caries, Pugh advocated prolonged recumbency to prevent the collapse of the diseased vertebral bodies until union had been achieved. There were no shortcuts: "There had never yet been devised a jacket or splint . . . which was capable of relieving the diseased vertebral bodies of an erect child from superincumbent weight."[7] He believed that recumbency could prevent deformity in the early case but did not think that hyperextension at the seat of disease, as practiced by Gauvain, could produce correction if deformity was already present. Pugh argued that hyperextension opened up a gap between the vertebral bodies, which interfered with bone healing. The lesion would then heal with fibrous tissue, which allowed recurrence of the deformity on assumption of the upright posture, despite the support of a jacket or brace. He was also against posterior spinal bone grafting as a method of shortening the duration of recumbency. He regarded the procedure as performed in the 1920s and 1930s as unsuitable for children. The operation was often done while the disease was still active in an endeavor to reduce weight on the weakened vertebral bodies by bracing the posterior elements together. Pugh argued that the center of gravity for the body was well in front of the spinal column and that if recumbency was discontinued before healing was well advanced, collapse of the vertebral bodies could occur anteriorly. Furthermore, the graft prevented telescoping of the vertebrae and maintained the space between them with a persistent abscess and further sinus formation.[7] Pugh was in advance of his time and his views on spinal grafting—in those days always posteriorly—proved correct. Pugh attempted to neutralize the deformity after arrest of activity by encouraging the compensatory curvature in the healthy region of the spine. He had observed that in two-thirds of his children, spinal caries developed before the age of 6 years, when the shape of the spine was readily modified.[7]

Pugh developed the Carshalton carriages for the recumbent treatment of vertebral caries.[8] They were made in the hospital workshop and consisted of a metal spinal frame mounted on a wooden carriage. On them, children could be immobilized for months or years with little supervision, but could exercise the limbs and share in the social and educational amenities of the hospital. Constructed of gas piping, the frame was shaped individually for each child to produce the appropriate compensatory spinal curvatures. The child was secured to the frame with a waistcoat of crash towelling and a folding leg piece was incorporated to rest the knees in slight flexion and prevent equinus deformity of the foot. When there was clinical and radiological evidence of healing, many children were then treated for a further lengthy period, often months or years, in a molded jacket of nonflammable celluloid.

Renal infection and lithiasis were, at one time, common complications in recumbent children and the carriages were modified in the early 1930s to allow 30 degrees of tilt of the frame to either side, thus elevating each kidney in turn to improve urinary drainage. This, in addition to a high fluid intake, restriction of dietary oxalate and oral administration of potassium citrate, solved the problem. In 1933 Pugh introduced a second hip carriage in which the spinal frame was mounted on rollers on a backward inclined slope to produce traction by suspension. As on the spinal carriage, a rotary device was incorporated. This carriage was developed to allow the child to lie in the more comfortable horizontal position.

Elmslie had reported that poliomyelitis was the commonest single cause of crippling in children in the London area,[9] and in 1924 the London County Council designated 50 beds at Queen Mary's Hospital for the treatment of this condition in the second stage, that is, from the loss of muscle tenderness until the disease became stationary. Pugh did not believe in outpatient treatment, as was commonly practiced then, and insisted that adequate supervision with rest, splintage, muscle training and re-education could be done only in hospital. In some cases he considered that heat, massage and electrical stimulation were beneficial, although he was fully aware of the dangers of fatigue. All treatment was under the supervision of two gymnasts. An outdoor heated swimming pool was constructed for the use of these patients in 1927. Children in the later stages of the disease were also admitted for operative correction of their deformities and for stabilization procedures, and many of these were done by distinguished visiting orthopedic surgeons such as the redoubtable Willie Trethowan from Guy's.

Although skeletal tuberculosis is now uncommon in the United Kingdom, Pugh's "traction by suspension" remains of considerable value for the treatment of children with transient synovitis of the hip, Legg–Calvé–Perthes' disease, coxa vara,[11] and fractures of the femoral shaft, and pro-

vides a memento of "Pugh of Carshalton," who devoted his life to the care of crippled children.

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Vittorio PUTTI

1880–1940

Vittorio Putti was professor in the University of Bologna, surgeon-in-chief of the Istituto Ortopedico Rizzoli, a founder of the Société Internationale de Chirurgie Orthopédique et de Traumatologie and president of its 1936 Congress, Honorary Member of the British Orthopedic Association, the American Orthopedic Association, Corresponding Member of the American Academy of Orthopedic Surgeons, and many other national organizations. He was a bibliographer, medical historian, orthopedic investigator, and teacher of surgeons. He had been a foreign editor of *The Journal of Bone and Joint Surgery* since January 1928.

Bologna was a Roman city. The Cathedral of San Pietro e San Paolo, built in part from the Roman remains, was erected in the fourth century. The city has long been a seat of learning, and legends attribute the founding of the famous University of Bologna to Theodosius the Great in 425 A.D. Among the students of this university were Dante (1265–1321), Petrarch (1304–1374), and Luigi Galvani (1737–1798), the discoverer of galvinism. One of the most famous professors was the anatomist Marcello Malpighi (1628–1694). In 1262 the students of the university were said to number nearly 10,000. The student population has decreased, but the medical school of the university is still outstanding.

The Istituto Ortopedico Rizzoli is situated on a hill on the outskirts of this fascinating old city and occupies the picturesque buildings of a Benedictine monastery known as San Michele in Bosco. The early years of this institute for crippled children were not noteworthy, until Alessandro Codivilla, modest and skillful master, became its director and surgeon-in-chief. This great general surgeon, after excelling in the surgery of the gastrointestinal tract and the brain, devoted his talents to orthopedic surgery, and the "Istituto" became world-famous. Codivilla made original and important contributions to the surgery of fractures and the methods of tendon transplantation, and to the development and standing of the specialty.

At his death in 1912, Codivilla was succeeded by Vittorio Putti, the son of a well-known surgeon who was for many years professor of surgery in the University of Bologna. Putti had first become identified with the Istituto Ortopedico Rizzoli in 1903, when Codivilla had appointed him as an assistant. Following 2 years of study in European clinics, he returned to the institution in 1909 as vice director, and in 1914 became director and surgeon-in-chief of the Istituto. He was also professor of orthopedic surgery at the University of Bologna.

In 1922 he opened the country branch, which provided for the care of 100 cases of surgical tuberculosis, and as director of this hospital (Istituto dio terapico Codivilla di Corona d'Ampezzo) in the Dolomites, he found frequent escape from his very strenuous city life.

A brilliant student, a wide reader, an able administrator, a resourceful and skillful surgeon with a mechanical bent, he enhanced the

reputation of the Istituto Rizzoli, and like Codivilla, made lasting contributions to the history of medicine and to the technique of orthopedic surgery.

In addition to being a tireless and exacting trainer of young surgeons, he encouraged his associates to become familiar with the history of medicine and the contributory sciences, to strive for exactitude in thought and action, and to appreciate beauty, not only of art and nature, but of character. His sanctum sanctorum, which he shared with his helpers, was the library (La Biblioteca Umberto I). On the walls of this dignified room are the same beautiful frescoes, executed by Canuti, that had given joy to the monks, and on its shelves are books and manuscripts covering a period of over 400 years.

By his numerous original contributions he became an international leader, a pioneer and an authority on bone and joint surgery, especially on congenital dislocation of the hip, its preluxation stage and its automatic reduction by the *divaricatore*, arthritis, arthroplasty, "sciatica," the forcible manipulation of adult club feet, the open treatment of fractures and the use of skeletal traction and metal fixation, the equalization of leg lengths by bone lengthening, spinal anomalies, cineplastic amputations and artificial limbs, and the surgical treatment of the residual effects of poliomyelitis. He published many monographs, not only on strictly medical and surgical subjects, but also on nonmedical subjects; as well as translations of old medical works. His large quarto, "Berengario da Carpi," published in 1937, represents not only a profound and extensive piece of research, but the best biographical study of this great surgeon and anatomist, who antedates Vesalius. This work alone places him among the great medical historians. His latest volume, published in 1940, is entitled "Cura operatoria delle fratture del collo del femore."

He was active in organizing *La Chirurgia degli Organi di Movimento*, which was first published in 1917. He continued as the editor of this outstanding medical journal until his death.

He was an accomplished linguist and lectured by invitation in practically every country, including the United States, England, France, Germany, and Russia. He visited England and America often and loved them both. He was a guest of the American Orthopedic Association at its Boston meeting in 1921, and delivered later the Lane lectures in California. He was the guest speaker at the Congress of the American College of Surgeons held in Boston in 1934 and in Chicago in 1937.

His titles were too numerous to mention, for he was a corresponding, honorary, or active member of most of the orthopedic societies of the world. His honors included civilian, medical, surgical, military, and academic recognition. He received from the King the title of Grand Officiali of the Crown of Italy.

Putti enjoyed the friendship of a host of physicians and surgeons throughout the world and was an inspiration to them. Those who knew him well discovered a depth of feeling and a capacity for friendship that were the true attributes of his character. After the death of his professional ideal, Sir Robert Jones, he wrote the following letter in English to an American colleague. Its exquisite diction suggests a faith and an affection that are almost religious in nature.

Dear—

The death of our unforgettable Sir Robert has made me think a great deal about you in these days. It is a great friend who has left us, and I think that all of us who loved him feel the need of uniting together in his memory. Let our friendship find in his memory strength of faith and reason of comfort. Do not forget me and believe me

Affectionately yours,

PUTTI

Vittorio Putti will rank among the great orthopedic surgeons of all time—great in heart as well as in mind and hand.

Thomas Bartlett QUIGLEY

1908–

Thomas Bartlett Quigley was born on May 24, 1908 in North Platte, Nebraska, the son of Dr. and Mrs. Daniel Quigley. He prepared at Omaha Central High School and then moved East to Harvard College, graduating in 1929.

In the spring of 1929, he made application for admission to Harvard Medical School. Although there had never been much doubt in his mind about a career in medicine, he flirted with the theater during the summer of 1928. However, he has never regretted his choice of medicine.

There was some doubt about accepting him into Harvard Medical School, when it was necessary for him to present for an interview with the Dean of Admissions on the same afternoon that he was to usher at a formal wedding. Needless to say, a rented cut-away was hardly suitable attire for such an interview; the Dean thought he was a "playboy" who had little to offer the profession. He was, however, accepted by the medical school and on graduation in 1933, he felt that he had been in Boston for long enough, and therefore applied for an internship in New York. He began his career as a resident in pathology at the Willard Parker Hospital in New York City.

The year 1934 brought the beginning of his long association with Boston's Peter Bent Brigham Hospital, where he received his postgraduate education in surgery and remained as a member of the staff until his retirement in 1974. His only time away from Brigham Hospital was in 1938, when he was resident surgeon at the Doctor's Hospital in New York City, and from 1942–1945, during World War II.

In 1938, he married Ruth Elizabeth Pearson. They have three children: Jane Alexander Sherin of New York; Thomas B. Quigley, Jr. of California; and Pamela Delaney of Ireland.[3]

During World War II, he served in England for 3½ years: for 2½ years, he was chief of the orthopedic service at the Fifth General Hospital; and during the last year, he served as chief of surgery at the 22nd General Hospital, attaining the rank of lieutenant colonel. This invaluable war experience crystallized his interest in the surgery of injuries. Although trained as a general surgeon and accredited as such by the American Board of Surgery, interest, opportunity, and circumstances gradually led him into the field of musculoskeletal trauma. From the onset of his practice, Dr. Quigley was associated with the Department of Hygiene and Athletics at Harvard University, eventually becoming head of the department. He once stated that "the care of these young men occupied one-third of my time; and constituted both an absorbing hobby and a fascinating opportunity to study injuries under ideal circumstances." The other two-thirds of his time were devoted to the teaching of medical students, and to private practice and the ever-increasing administrative demands of committees and professional societies. For more than 30 years he revived, mended, and befriended countless Harvard athletes, thus earning the nickname "doctor of football."

Early in his professional career, he succumbed to an incurable "disease," *Cacoethes Scribendi*, first described by Oliver Wendell Holmes and literally meaning the "itch to write." This "disease" led to the production of more than 172 publications during his career, mainly devoted to the surgery of trauma. His writings have always been clear and precise.

He has had relatively little time for hobbies, but has always enjoyed the sea life, particularly fishing and sailing near his summer home on Nantucket Island.

Dr. Quigley has had an academic appointment to all three medical schools in Boston: a clinical professor at Harvard, and a lecturer in orthopedic surgery at Tufts and Boston universities. He has also been a consultant to many of the major hospitals in Boston. Furthermore, he has served on the board of editors of *Clinical Orthopedics and Related Research* and of the *American Journal of Surgery*. In 1978, he was editor of the *Year Book*

of Sports Medicine. He received an honorary membership in the American Orthopedic Association for Sports Medicine in 1976, and was cited as "Sportsman of the Year" in 1978. During the period from 1977 to 1978, he was president of the Harvard Medical Alumni Association.

Dr. Quigley has made numerous contributions to the art and practice of orthopedic surgery, but his approach to the management of the frozen shoulder and the development of a procedure to stabilize the knee utilizing the popliteal muscle deserve special attention.[1,2]

An unusually competent and compassionate surgeon, Dr. Quigley has served as a role model for students and residents for more than four decades. He has been a superb teacher, perhaps in part owing to his acting talents, but also because of his knowledge and surgical abilities. He has always enjoyed the company of young people, especially athletes, students, and residents, and he has encouraged the scholarly activities of numerous surgical and orthopedic residents.

Whether on rounds or in the operating room, Dr. Quigley has evidenced the ability to recognize the problem at hand and react in a precise way. In the care of patients, the education of students and residents, and writing, Dr. Quigley has always demonstrated great style.

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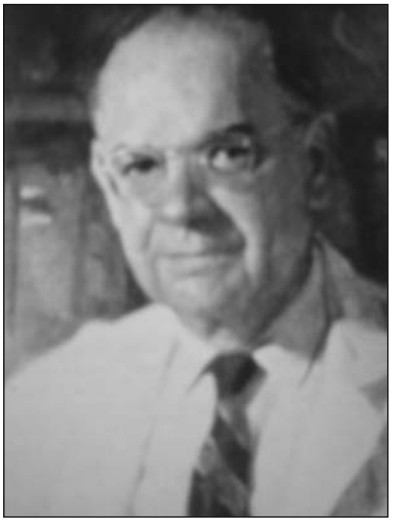


Fred C. REYNOLDS

1908–1986

Fred was born in Texarkana, Texas. He enrolled in Washington University in 1926 and received a Doctor of Medicine degree in 1934. He became a surgical house officer at Barnes Hospital under the supervision of Dr. Evarts Graham. In 1937, he left St. Louis and began a preceptorship in orthopedic surgery with Dr. E. Bishop Mumford in Indianapolis, Indiana.

In 1942, Fred entered active duty with the United States Army and in 1943 was transferred to England. While he was assigned to the 192nd General Hospital in 1944, he met Lieutenant Phyllis Terry, a nurse who was assigned to the orthopedic service. They were married in February of 1945. After Victory in Europe Day, he became chief of orthopedic surgery at Gardiner General Hospital in Chicago until his return to civilian life, after achieving the rank of lieutenant colonel in 1946.

He had planned to practice medicine in Texas, but after stopping in St. Louis to renew an old acquaintance with Dr. J. Albert Key, he stayed, joined Dr. Key in practice, and resumed his affiliation with Washington University and the Barnes Hospital. He developed an interest in basic research and wrote articles on the banking of bone, experimental fracture healing, arthroplasty, and the spine. In 1961, Fred coauthored the seventh edition of *Fractures, Dislocations and Sprains*, the definitive textbook on fractures for that time.

After Dr. Key's death, Fred was invited by Dr. Carl Moyer to join the full-time faculty at

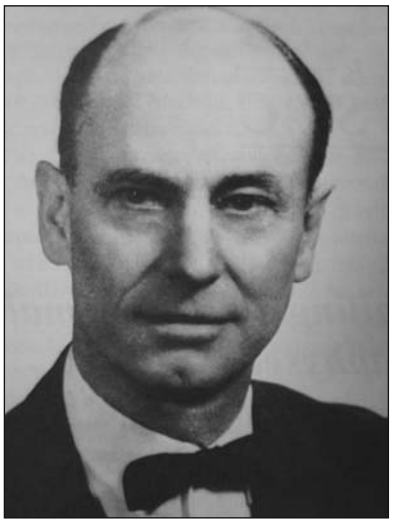
Washington University, and in 1956 he became professor and chief of the Division of Orthopedic Surgery. He subsequently developed an academic program that had ten full-time faculty members and an active laboratory for basic sciences, which attracted residents and faculty from the entire nation. He retired as chairman in 1972 and became professor emeritus in 1976. Fred was honored by the Alumni Association in 1978 and 1984. The Fred C. Reynolds Chair of Orthopedic Surgery was created at Washington University in 1979 from contributions by his friends, students and patients.

Fred became active in the American Academy of Orthopedic Surgeons, serving as chairman of the Instructional Course Committee from 1959 to 1961, chairman of the Committee on Graduate Education from 1961 to 1964, and editor of the Instructional Course Lectures and president in 1965. He was president of the Clinical Orthopedic Society in 1960, and he was elected to the American Orthopedic Association. In addition to being a member of the American Board of Orthopedic Surgery and of state and local orthopedic and surgical societies, Fred was president of the St. Louis Orthopedic Society and of the Clinical Orthopedic Society and served on study sections of the National Institutes of Health and the editorial board of *The Journal of Bone and Joint Surgery*, and was a founder and first president of the Association of Orthopedic Chairmen. He was the orthopedic surgeon for the Cardinals, the St. Louis football team, from 1961 to 1972, and continued with them as an active consultant until his death.

Fred considered his major responsibility to be the education of students and doctors at the residency and post-residency level. His greatest quality as a teacher was his uncompromising honesty and integrity. He was his own severest critic, a quality he taught by example to those around him. He had no patience for stupidity or laziness. Fred's advice to residents, whether they entered military service (an experience he thought would be valuable) or practice, was the same: never stop studying.

Fred was a master surgeon and a careful and thoughtful physician. To those who knew him superficially, he was a crusty, grumpy, taciturn man. But those who were privileged to be associated with him knew him as a caring, compassionate, highly skilled physician, teacher, and friend. His wish for his residents was that they should be better physicians, surgeons, scholars, and teachers than he was. It is unlikely that any ever were. Fred Reynolds was not a physically large man, but he was one of the giants of orthopedics.

Fred Reynolds died in St. Louis on October 10, 1986, from carcinoma of the pancreas. In addition to Phyllis, he left three children: Mary Ann Krey, Dr. Barbara Lingle, and Fred, Jr.



Frederic W. RHINELANDER

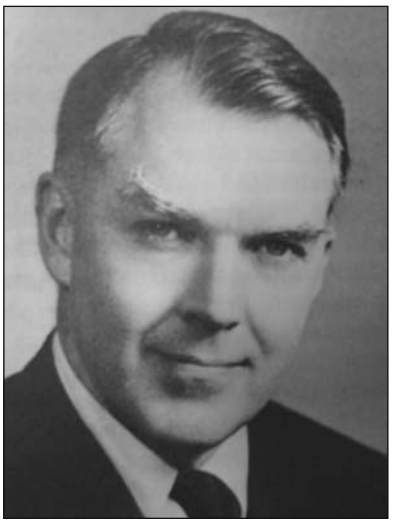
1906–1990

Frederic W. Rhinelander was born in Middletown, CT. His father was an Episcopalian minister who became the bishop of Pennsylvania. Rhinelander was educated at St. Albans School in Washington, DC, where he received a rigorous classical education. After obtaining a bachelor's degree from Harvard University in 1928, he attended Oxford University, which awarded him an additional bachelor's degree and a master's degree from the school of medicine. He then returned to the United States and obtained his medical degree from Harvard University in 1934. His postgraduate training embraced a broad experience in research and the basic sciences and orthopedics. In 1941, he joined the faculty of Harvard University Medical School, where he remained until 1947, with a hiatus as a medic in World War II. While in the service, Rhinelander became chief of orthopedics at the Letterman General Hospital in San Francisco. His experience with the use of iliac bone grafts in the treat-

ment of ununited fractures was substantial. After leaving the service, he entered private practice in San Francisco and had a clinical appointment on the faculty of the University of California in San Francisco. In 1955 he joined the faculty of Case Western Reserve University School of Medicine, where he remained, retiring as professor emeritus in 1972. It was while he was in Cleveland that Rhinelander did his intensive study of the microcirculation in bone and the effects of operative procedures on this circulation. After his retirement, he moved to Little Rock, AR, where he served on the faculty of the University of Arkansas. In 1979, Rhinelander returned to California, where he was appointed research professor of orthopedic surgery at the University of Southern California School of Medicine in Los Angeles.

The quality of Rhinelander's work on the microcirculation of bone was recognized by the American Academy of Orthopedic Surgeons, from which he received the Kappa Delta Award in 1974. This was only one of many such awards that he received.

Rhinelander was a careful observer and investigator. He was meticulous in his technical preparations from which he drew his conclusions.



Robert A. ROBINSON

1914–1990

Robert A. Robinson was born in Rochester, NY, where he obtained his primary education. After attending Harvard University, Boston, MA, he studied medicine at the College of Physicians and Surgeons, in New York City. After receiving his medical degree in 1939, he interned and served a year of general surgery residency in the Brooklyn Hospital. Shortly after beginning his orthopedic residency at the Presbyterian Hospital in New York City, his training was interrupted by World War II. Robinson served in army hospitals in the United States and in the South Pacific. At the time of his discharge he was the commanding officer and chief of surgery of the 90th Field Hospital in Leyte, Philippine Islands. On returning home in 1946, he resumed his orthopedic training at Strong Memorial Hospital in Rochester, NY. After completing his residency in 1948, Robinson spent a year in England at the Robert Jones and Agnes Hunt Orthopaedic Hospital. It was his experience in England that first stimulated his interest in surgery of the spine.

On his return to the United States, Robinson joined the faculty of the University of Rochester School of Medicine and began his work on the nature of bone crystals. This work received the Kappa Delta Award for outstanding research in orthopedic surgery, presented by the American Academy of Orthopedic Surgeons in 1952. The following year he was named professor of orthopedic surgery at the Johns Hopkins University, Baltimore, MD, a position that he filled with distinction until his retirement in 1979. During his years in Baltimore, Robinson continued to do basic research in the anatomy and physiology of the bone matrix. He was a founding member of the Orthopedic Research Society, and an inspiration to a generation of young investigators. His major clinical interest was in surgery of the cervical spine. Robinson served the orthopedic community as an active member of numerous boards, committees, and associations, including a term as president of the American Orthopedic Association.

Alexandre RODET

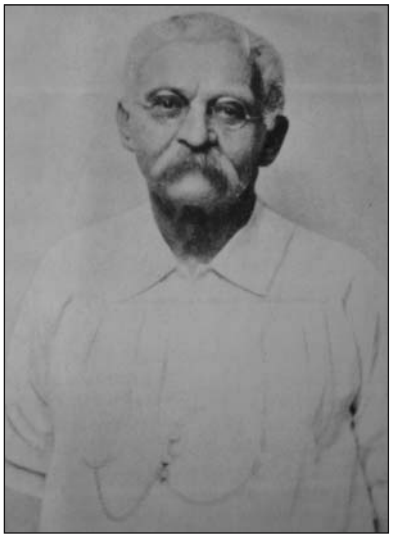
1814–1884

Alexandre Rodet was trained in Paris and became chief surgeon at the hospital of l'Antiquaille in Lyon, where he spent the better part of his career. In 1884, a paper by Rodet on experimental infec-

tious osteomyelitis was read to the Academy of Science in Paris by Bouley, one of its fellows. It is the first recorded experimental demonstration of the disease now known as hematogenous osteomyelitis.

Silvio ROLANDO

With the publication of his article "Fracture de la base du premier metacarpien," Silvio Rolando became the third Milanese surgeon to have a fracture named after him, a distinction he shares with Monteggia and Galeazzi. Like his colleagues, Rolando was a general surgeon. During a period of 30 years, he published papers in Italian and French medical periodicals on a wide variety of surgical conditions. Rolando was a member of the Société Internationale de Chirurgie.



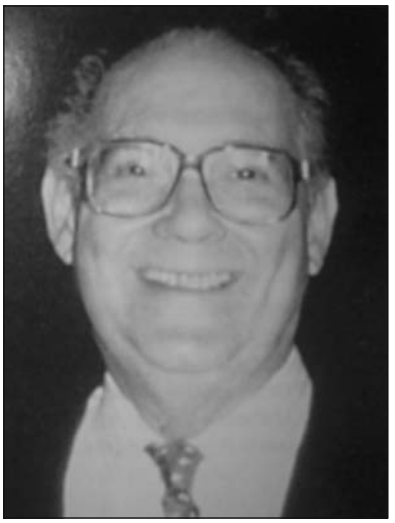
César ROUX

1857–1934

César Roux, born March 23, 1857 at Mont-la-Ville, died December 21, 1934, in Lausanne. Roux was educated in the Lausanne schools and pursued medical studies in Berne from 1874–1880. After 1 year of study in Vienna, Prague and Halle, he became first assistant at Köcher's clinic and L'Hópital de L'Ile. In 1883, he began a medical practice in Lausanne. He rapidly achieved a reputation of an extremely skillful surgeon. In 1887, he was asked to become the physician in charge of one of the two surgical services at the regional hospital in Lausanne, and in 1890, Roux was given a title of extraordinary professor and in 1893, ordinary professor of surgery. Roux knew how to incite students to observe and think. His fiery medical, professorial and scientific activities lasted almost 40 years. He was a commander of the French Légion d'Honneur and Doctor Honoris Causa Degree of the University of Paris in 1929.

Roux's name is closely linked to important progress in modern surgery, especially in the treatment of typhlitis, an affliction that Roux named more pertinently appendicitis, and operative treatment of recurrent dislocation of the patella. His operative methods represent important innovations (thoracoplasty in pulmonary tuberculosis, esophagojejunogastrostomosis in esophageal stenosis, posterior gastroenterostomy in Y-manner in gastric carcinoma, etc.). There is practically no surgical intervention that Roux has not modified technically in

an original manner. A great number of new instruments and apparatuses are attributed to him. In his later years, Roux was particularly interested in the goiter problem.



Raymond ROY-CAMILLE

1927–1994

Raymond Roy-Camille was born on April 25, 1927, in Fort-de-France on the island of Martinique. His father was a successful merchant who had large land holdings. Raymond was an active, curious child and a serious student. He hunted extensively with his father, and hunting became an important part of his life.

Raymond's uncle, Abel Roy-Camille, was a surgeon in Martinique and did much to stimulate Raymond to enter medicine. Raymond was fascinated by the work of his uncle and spent much time visiting and observing him.

In 1938, Raymond finished his last year of primary school at St. Moritz in Fort-de-France. He completed secondary school in 1945 after having excelled in all of his classes. Although these were the years of World War II, the educational system of Martinique was not disrupted. Raymond moved to France in 1945 at the age of 17, just as the war was ending. When he arrived in Paris, there were continuing post-war restrictions. During this time, he decided to become a surgeon. He attended undergraduate school from 1945 to 1948 and served as an extern from 1948 to 1952 at the Hôpitaux de Paris.

Raymond was an intern at the Hôpitaux de Paris Medical School from 1952 to 1958 and, in 1955, he served as an aide d'anatomie de la faculté (a member of the anatomy department). It was during his internship that he had to choose between general surgery and orthopedics. He had been influenced by Patel, Couvelaire, Hepp, and Cordier in the former field and by Lence, Merle d'Aubigné, Petit, Fevre, and Judet in the latter. Having studied under the most important personalities of that time, Robert Judet and Gaston Cordier, Raymond chose to remain in orthopedics with Judet.

In 1957, Raymond presented his thesis on pseudarthroses of the long bones, which was based on his work as a member of the anatomy department. His thesis was awarded the Gold Medal, the highest honor that can be achieved by a graduate student. His findings related to the vascularization of nonunions were a major contribution to the understanding of the appropriate treatment of these lesions. On the basis of his work with Cordier in the anatomy laboratory of the faculté in 1959, he compiled an atlas of horizontal cuts of the thorax, with photographs and illustrations that demonstrated the axial anatomy: these images prefigured what would later be possible with computerized axial tomography.

After completing his internship, he spent a year in the service of Professor L. Leger. Leger was also from Martinique, and he took Raymond under his protective wing. They formed a special friendship that lasted for the remainder of their lives.

Raymond was chief of the Clinique Chirurgicale Infanthe et Orthopédique from 1958 to 1960 and an Assistant des Hôpitaux de Paris in Judet's department at L'Hôpital Raymond Poincaré in Garches from 1960 to 1966. His interest in traumatology and tumors of the spine was particularly stimulated when he served as an associate professor of traumatology and orthopedics at that institution from 1962 to 1970. He shared Judet's interest in the cervical spine, and his innovative ideas became well known. He established criteria for the use of a posterior approach for the operative stabilization of fractures of the cervical spine. He also described the importance of the midvertebral segments and ligamentous injuries of the cervical spine.

As chief of the department of traumatology and orthopedics at l'Hôpital Intercommunal in Poissy from 1970 to 1975, Raymond developed the concept of the spine center and built his reputa-

tion in the area of acute treatment of trauma to the spine. He also supervised the construction of a heliport so that patients who had acute injuries of the spine could be transported more quickly to the hospital for emergency treatment. In 1973, he visited the two men considered to be the world's leaders in the treatment of spinal disorders: Ralph Cloward, in Honolulu, and Arthur R. Hodgson, in Hong Kong. His interest in the pathology of the spine, including tumors, infections, and degenerative problems was stimulated even more.

In October 1976, Raymond became chief of orthopedics and traumatology at l'Hôpital de la Pitié-Salpétrière. He succeeded Sicard and in turn was succeeded by Saillant. While in this position, Raymond was responsible for many innovative ideas, particularly pertaining to techniques for operations on the spine.

Raymond never actually considered himself a spine surgeon *per se* but, more appropriately, an orthopedic and trauma surgeon. He recalled being told by Fevre, a general surgeon, that "if you want to do something interesting, you must do something which is difficult and that nobody else wants to do."

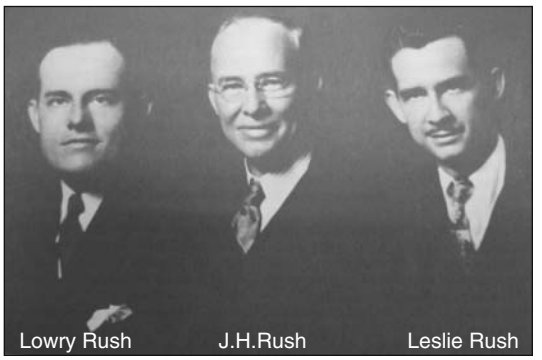
The concept of placing a screw in the pedicle emerged in 1963, when Raymond managed a 17-year-old girl who had severe dislocation of the fourth and fifth lumbar vertebrae and cauda equina syndrome as the result of a traffic accident. She had had a laminectomy previously at another hospital, performed by the neurosurgical team. The fourth lumbar vertebra was still dislocated in the lateral position on the fifth lumbar vertebra and the spine was obviously quite unstable. Raymond stated:

> The reduction was easy, but I had no more spinous processes. I had no more laminae, and the wires and Wilson plates we had at this time were not helpful. So I had to do something. I tried to stabilize the spine with two Scherman plates, implanting screws where I could. I was an anatomist and I knew about the pedicle; I understood immediately that a good location to have an implant fixed to the spine was the pedicle. That is how I started with this surgery the first time.

Raymond introduced spinal plating and pedicle-screw fixation to the United States when he was the presidential guest speaker at the annual meeting of the American Academy of Orthopedic Surgeons in San Francisco in 1979. He had been invited to speak by the president of the Academy, Mason Hohl.

Raymond established many international bridges throughout the world as he traveled to lecture on problems of the spine. This was best exemplified by his collaboration with Carroll A. Laurin and Lee H. Riley, Jr. in editing the three-volume *Atlas of Orthopedic Surgery*, published in 1989. He was the author of many articles and books. His extensive memberships included an honorary membership in the North American Spine Society. He was an enthusiastic member of the Cervical Spine Research Society and helped to found the European branch, further enhancing the international bridge. His quest for building a bridge of knowledge between Europe and North America was also demonstrated by his hosting of the International Meeting on Spinal Osteosynthesis in December 1992.

Raymond and his wife, Chantal, were married in Toulouse in 1976. Their life was accentuated by Raymond's work and travels, as well as his love for hunting. They had many friends and a very busy social life, which they both enjoyed greatly. Raymond died on July 14, 1994, being survived by his wife and a daughter, Julie.



Leslie V. RUSH

1905–

Nowhere is the old adage, "necessity is the mother of invention," validated more frequently in surgery than in the surgery of trauma. In 1936, an encounter with a badly comminuted and contaminated open Monteggia fracture–dislocation of the elbow demonstrated the value of intramedullary fixation to two innovative young Mississippi surgeons, Leslie V. Rush and H. Lowry Rush. They were able to stabilize and heal a segmental fracture of the ulna by using an

intramedullary Steinmann pin. Satisfied with their result, but not with the pin itself, they pursued an interest in the problem of intramedullary fixation, which led to the development of a new type of pin and a technique for using the pin in a wide variety of fractures. They pointed out the value of using straight pins in curved bones and curved pins in straight bones to obtain better fixation. They were the first surgeons in the United States to have an impact on and to make a substantial contribution to the technique of intramedullary fixation.

Their father, J.H. Rush (1868–1931), was a native Mississipian who established his surgical practice in Meridian, Mississippi, in 1910, after previously practicing there as a dentist. His sons joined him in his practice. H. Lowry Rush (1897–1965) was a medical graduate of the University of Pennsylvania, and while he assisted his brother Leslie with the fracture work, his main interest was in gynecological surgery. Leslie V. Rush, was born in 1905 and obtained his medical education at Tulane University. He practiced general surgery with an emphasis on trauma and a continuing interest in the treatment of fractures for 55 years.

James RUSSELL

1755–1836

James Russell was the first professor of clinical surgery at the University of Edinburgh. In 1794 he published a book on *Necrosis of Bone*. According to Garrison and Morton, this is, if not the first, one of the first pathologic descriptions of osteonecrosis in medical literature. It was widely read in its day and its importance is attested to by the title page, which in itself is of some bibliophilic interest. It had been the property of the New York Hospital library (the oldest in New York City) and came from them to the then newly created New York Academy of Medicine library in the latter half of the nineteenth century. It should be called to the reader's attention that osteonecrosis in Russell's day was chiefly septic and the distinction between septic and aseptic necrosis was not emphasized until Axhausen's work some more than half a century later.

Robert Hamilton RUSSELL

1860–1933

Robert Hamilton Russell was born in England and received his medical education at King's College, London. There, he came under the influence of Joseph Lister, for whom he worked as a house officer. He also visited hospitals on the Continent. After obtaining his qualifications as a surgeon, Russell practiced in London for 2 years before emigrating to Australia. As one of his associates, C.H. Fagge wrote: "He never told us why he was going to leave England, but we knew that he went to the beautiful climate of Australia to escape from a fear of tuberculosis." Although he made occasional trips to the United States and Europe,

and served in England and France during World War I, his career was in Australia. He became an important figure in the surgical scene in Melbourne as a practitioner, teacher and leader in the surgical community. He became a Fellow of the American College of Surgeons in 1924 and was a founding member of the Royal Australasian College of Surgeons in 1927. His description of a method of skin traction for the treatment of fractures of the femur made his name well known to surgeons throughout the world. Although he became quite disabled in his later years, he retained his ability as a pianist, a talent he used to entertain his many friends. He was killed in a motor vehicle accident in 1933.

Edwin Warner RYERSON

1872–1961

Edwin Warner Ryerson was born on March 14, 1872, in New York City, where he attended school; he was graduated from Harvard Medical School in 1897. He was the house surgeon at Boston Children's Hospital from 1897 to 1898 and then did postgraduate work in Berlin and Vienna. In 1899, he migrated west and began the practice of orthopedic surgery in Chicago.

He was always interested in teaching; his first appointment was that of instructor in the principles of surgery at Rush Medical College, a position he retained until 1906. From that date until 1935, his teaching career was quite active. He became professor of orthopedic surgery at the Policlinic Hospital, holding an overlapping appointment as assistant professor of surgery at Rush Medical College from 1916 to 1918. In 1916, he became professor and head of the department of orthopedic surgery at the University of Illinois College of Medicine, a position he retained until 1919. He then transferred to Northwestern University, where he was associate professor of orthopedic surgery from 1919 to 1921 and professor and head of the department until his retirement in 1935.

Dr. Ryerson was always interested in children's orthopedics. For many years he was attending orthopedic surgeon at the Children's Memorial Hospital as well as at Cook County Hospital and the Home for Destitute Crippled Children, while he continued his practice at the Policlinic Hospital.

World War I temporarily interrupted his practice and teaching; he entered the service in April 1918 and was discharged as a major on August 7, 1919. While in the armed forces, he also served with the United States Public Health Service. On his return to civilian life, in addition to his other duties, he served as orthopedic consultant at Hines Veterans Administration Hospital from 1920 to 1928, and in 1922 he became attending orthopedic surgeon at St. Luke's Hospital (now Presbyterian–St. Luke's), a position he held from 1922 until his retirement in 1949, when he became emeritus orthopedic surgeon.

Dr. Ryerson was elected to membership in the American Orthopedic Association in 1905 and was president of this parent association in 1925. He was one of the founding members and president of the Chicago Orthopedic Society. When the American Board of Orthopedic Surgery was founded in 1934, he became a member, was vice president in 1935, and served on the board until 1940. In 1912, Dr. Ryerson was one of the organizers of the Clinical Orthopedic Society; and in 1914 he was president of that association, which was to become the force behind the creation of the American Academy of Orthopedic Surgeons.

The American Academy of Orthopedic Surgeons was formed in 1933 by a small group of men from the Clinical Orthopedic Society. Dr. Ryerson was a leader among the Founders Group and was elected first president of the Academy in 1933. He was a constant friend of succeeding presidents and a welcome guest at meetings of the executive committee after his term of office had expired. Dr. Ryerson lived to see the Academy

become the largest, most powerful, and most useful orthopedic organization in the world.

In addition to these activities, Dr. Ryerson was a member of the International Society of Orthopedic Surgery and Traumatology, the Institute of Medicine of Chicago, and the American College of Surgeons. He served on the board of governors of the American College of Surgeons in 1947. He wrote many articles on orthopedic subjects and is, perhaps, best remembered for the Ryerson triple arthrodesis of the ankle. For several years he edited the *Yearbook of Orthopedic Surgery and Traumatology*.

Perhaps Dr. Ryerson's professional life is best epitomized by what a former associate said of him: "He was a good teacher and surgeon; he always gave his best to his patients."

Many of the younger men in Chicago came to know Dr. Ryerson in his later life through his attendance at local meetings, including those of the Chicago Committee on Trauma, where his discussions of papers were always to the point. He was meticulous in his choice of words and insisted that others be equally meticulous. At St. Luke's Hospital, his operating room was always open to the younger men, and he would take time to explain the operative procedure. His technique in the operating room was the best. Although his primary interest was orthopedics, he would often observe other types of surgery being done. Frequently he came into my operating room to observe the procedure and give helpful suggestions. Unbeknown to him, he was frequently referred to by the younger men as Uncle Ned, which indeed was a term of endearment.

In 1947, he retired from private practice to live in Fort Lauderdale, Florida, with his very gracious wife, Adelaide, whom he married in 1904. During the summer months, however, he still spent considerable time in and around Chicago.

Dr. Ryerson belonged to several clubs in Chicago and was an ardent and enthusiastic golfer. In his later years his interest changed from golf to daily visits to the docks, seeing the many ships in port and conversing with their captains.

At the annual meeting of the American Academy of Orthopedic Surgeons in January 1961, a lapel pin was given to each of the past presidents of the Academy. It was my privilege and pleasure after this meeting to present this pin to Dr. Ryerson at his home in Fort Lauderdale. Although he had some difficulty walking at that time, the spark in his eyes and kindly smile were still present as he spoke of his appreciation of this token and remembrance by the Academy.

Dr. Ryerson died on February 3, 1961, at his home in Fort Lauderdale. His teachings and contributions to orthopedic surgery in Chicago and throughout the world will be long remembered.

Amulya Kumar SAHA

1913–

Amulya Kumar Saha was born in 1913 in Pabna in undivided India (now in Bangladesh). After graduating with degrees in both science and medicine from Calcutta University, where he received his surgical training under Professor L.M. Banerjee, one of the outstanding surgeons of India in his time, he volunteered in the British Indian Army during World War II. He saw service in Burma and in the Middle East, where he became a surgical specialist and quickly rose to the rank of major. After demobilization, he traveled to the United Kingdom for additional training and study in surgery. He received the titles of FRCS (Eng), FRCS (Edin), and MChOrth (L'Pool) in 1948. He became interested in the shoulder mechanism while assisting Professor S.K. Basu at the Indian Museum in 1940. He delivered his first dissertation to the Liverpool orthopedic group in 1948. Thereafter, the shoulder was one of his abiding interests.

On his return to India, Saha was first appointed to the post of reader in surgery in Gwalior Medical College. Subsequently, he joined the

Nilratan Sircar Medical College and the University of Calcutta as associate professor of surgery, where he served from 1949 to 1955. From 1955 to 1963, he served as professor director in the Department of Surgery at the same institution and eventually became an honorary consultant orthopedic surgeon, a position he held from 1964 to 1972. In 1972, he was made emeritus professor of orthopedic surgery. During Professor Saha's time, orthopedic surgery was just becoming recognized as a specialty in India. Through the force of circumstances, he was appointed to a post in general surgery, although he was primarily interested in orthopedics. In fact, he was largely instrumental in popularizing orthopedics in Calcutta and training a number of younger surgeons in this field. They have maintained his high standards at Nilratan Sircar Medical College Hospital in Calcutta.

Professor Saha's major contribution to orthopedic research and clinical orthopedic practice is in relation to the shoulder joint. While at Nilratan Sircar Medical College, he conducted extensive studies on the functional anatomy of the shoulder joint from anatomic, anthropologic, morphologic, radiologic, and electromyographic, as well as mathematic, points of views. As a result of these studies, he published his work on the zero position of the glenohumeral joint in 1950. In 1957, he was invited by the Royal College of Surgeons of England to deliver a Hunterian Lecture, "Zero-position of the Glenohumeral Joint: its Recognition and Clinical Importance." At about this time (1954), he became interested in the study of recurrent dislocation of the shoulder joint and in rehabilitating patients with paralysis of the shoulder following poliomyelitis.

He was convinced that dynamic stability was essential during various stages of elevation of the shoulder joint with versatile ranges of movements. He postulated that there are three main factors that maintain the dynamic stability of the fully developed shoulder joint: (1) normal retrotilt of glenoid articular surface in relation to the axis of the scapula; (2) the optimum retrotorsion of the humeral head in relation to the shaft; (3) balanced power of the horizontal steerers. Based on these principles, he evolved his operations for treatment of recurrent dislocation of the shoulder joint, which he considered to be primarily due to lack of dynamic stability during abduction. In some cases of recurrent anterior dislocation of the shoulder joint, there was no history of injury, and in many cases no Bankart lesion was demonstrable. He was of the opinion that the Bankart lesion possibly was not the cause of recurrent anterior dislocation and occurred from lack of the stabilizing factors and superimposed trauma. In other words, some shoulder joints are more prone than others to undergo spontaneous dislocation, with or without minimal stress. Based on these considerations, he evolved his operations: (1) glenoid neck osteotomy to increase the retrotilt of the glenoid (modified Meyer Burgdorff), when it was demonstrated radiologically that the glenoid retrotilt was diminished or there was actual antetilt; (2) decreasing the retrotorsion of the humeral head by rotation osteotomy of the upper shaft of the humerus, when there was excessive retrotorsion demonstrable by special radiograms; (3) augmenting the power of the horizontal steerers by transferring the tendon of the latissimus dorsi to the posterior aspect of the humeral neck. He published several monographs, one of which was translated into German in 1978.

For the post-poliomyelitis paralyzed and flail shoulder, Professor Saha developed his techniques of multiple muscle transfers based on his concept of dynamic stability of the shoulder; this work was described in a supplement to *Acta Orthopedica Scandinavica* in 1967. This concept and its application have been included in many books on the shoulder, including *Campbell's Operative Orthopedics*.

In addition to his great interest in surgery of the paralyzed shoulder, he also devoted his efforts to the rehabilitation of the paralyzed hip following poliomyelitis, using various original muscle transfer techniques to increase muscle power around the hip. He published a number of articles on this subject in Indian journals.

Professor Saha was also interested in partial and total shoulder arthroplasty and was working in this field at the time of his retirement. He designed a removable metal prosthesis based on his concept of dynamic stability of the shoulder, which uses available muscles to provide motor power to the shoulder. Lately, this prosthesis has been modified by one of his colleagues to include a high-density polyethylene cover.

In addition to the subjects already mentioned, Professor Saha was interested in various other aspects of orthopedics and was first and foremost an excellent clinician and versatile surgeon. He is held in high esteem by his colleagues and students. He is a past president of the Indian Orthopedic Association, an honor that he very much cherished. He was also the recipient of DSc

(Anatomy) and Coats Gold Medal of the Calcutta University for original research. Professor Saha was an active member of the Société Internationale de Chirurgie Orthopédique et de Traumatologie and attended many of its meetings, presenting papers on the shoulder.

He was invited by several universities in the United States, the United Kingdom, and Japan to deliver lectures about his work on the shoulder joint.

Lewis Albert SAYRE

1820–1900

Lewis Albert Sayre was the dominant figure in orthopedic surgery in the United States during the nineteenth century. His father, a wealthy farmer in New Jersey, died when Lewis was only 10 years old, and he was brought up by his uncle, a banker in Lexington, Kentucky. He graduated from the Transylvania University in Lexington before attending the College of Physicians and Surgeons in New York City, from which he obtained his medical degree in 1842. By 1853, he had become a visiting surgeon at Bellevue Hospital, where he was an important factor in the founding of Bellevue Hospital Medical School. Because of his special interest, his large practice consisted mainly of patients with diseases and injuries of the bones and joints. For this reason, in 1861 he was appointed professor of orthopedic surgery, fractures and dislocations at Bellevue Hospital Medical School. This was the first such position in an American medical school. In addition to his practice, Sayre had the energy to serve as the health officer for the City of New York from 1860 to 1866. In this capacity, he made great improvements in public health, particularly because he recognized the contagious nature of cholera. His activity in the public sphere reached its apex in 1880 when he became president of the American Medical Association, the only orthopedic surgeon to be so honored. During his tenure in office, he gave strong support for the establishment of the *Journal of the American Medical Association*, which began publishing in 1882.

Sayre was a prolific author, and his books were widely read throughout the world in translations. His greatest contributions to orthopedic surgery were in the treatment of tuberculosis of the spine and other joints. Such a dynamic personality could not avoid controversy and indeed he did not try to avoid it. It is interesting to note that his three sons all became orthopedic surgeons.

Antonio SCARPA

1752–1832

Antonio Scarpa was born near Venice. He attended medical school in Padua, receiving his degree at the age of 18! While in Padua, he was strongly influenced by Morgagni. At the age of 20, Scarpa became professor of anatomy and theoretical surgery at Modena. Ten years later, he moved to Pavia as professor of anatomy, becom-

ing professor of surgery also in 1787. He was a brilliant anatomist, whose extraordinary skills as an artist enabled him to illustrate his own works. He traveled widely in Europe and spoke several languages fluently. Although he is remembered for his anatomic eponyms (e.g. Scarpa's fascia, Scarpa's triangle), he should be remembered also as an outstanding surgeon for his operations for vascular disease. In Italy, he is considered to be the father of ophthalmology.

Scarpa's *A Memoir on the Congenital Club Feet of Children and of the Mode of Correcting that Deformity* showed his many-sided character. It combines a thorough review of the foreign literature with a description of the anatomy of the condition and an exposition of a successful method of treatment. It is worth noting that Scarpa's conception of the underlying pathology of congenital club foot was the beginning of our understanding of this deformity.

Fritz SCHAJOWICZ

1912–1992

With the possible exception of Henry Jaffe, no pathologist has contributed more to the education of orthopedic surgeons regarding bone tumors than has Fritz Schajowicz, who died in St. Louis, Missouri, on January 14, 1992, at the age of 80 years. His international stature as an expert in the pathology of bone tumors was firmly established by the publication, in 1981, of his textbook *Tumors and Tumorlike Lesions of Bone and Joints*. Before that time, his work and career had led him to several prestigious appointments, including director of the International Reference Center for Histo-Pathologic Diagnosis of Bone Tumors and Allied Diseases of the World Health Organization and director of the Latin American Registry of Bone Pathology. He also was an active member of the International Skeletal Society.

Fritz was born in Vienna, Austria, where he received his basic medical education and, in 1938, his MD degree. Forced to leave by the Nazis, he went first to Bologna, Italy, and then to Buenos Aires, Argentina, where he established himself as a bone pathologist. He developed a close association with Jose Valls and Carlos Ottolenghi, the most noted orthopedic surgeons in Argentina at that time. To support his growing interest and expertise in bone pathology, he created the Latin American Registry of Bone Pathology. As director of the registry, he amassed more than 30,000 cases, which formed the basis of his classic textbook. He taught at the University of Buenos Aires for nearly 45 years. He then joined the faculty of St. Louis University, as he and his wife wanted to live near their two daughters, who had been educated in St. Louis and had chosen to remain in this country after marriage to United States citizens. For the last few years of his life, until he died of a sudden heart attack, he taught (and was an active member) in the departments of orthopedic surgery at St. Louis University and at the Rush–Presbyterian–St. Luke's Medical Center in Chicago.

He most cherished the honor conferred on him in 1990 by the City of Vienna, the Goldene Ehrenzeichen (Gold Star), which is the most distinguished award given by the city for cultural and scientific merit. He was fully aware of the irony of receiving such an honor from a city from which he, for practical purposes, had been expelled decades before.

Fritz was an assiduous worker, a vigorous promoter of bone pathology as a specialty, a careful writer, and a warm family man. He had a wonderful sense of humor, a drive to educate, and a remarkable ability to get things done. His text on bone tumors will serve as a lasting memorial to his achievements.

Holger Werfel SCHEUERMANN

1877–1960

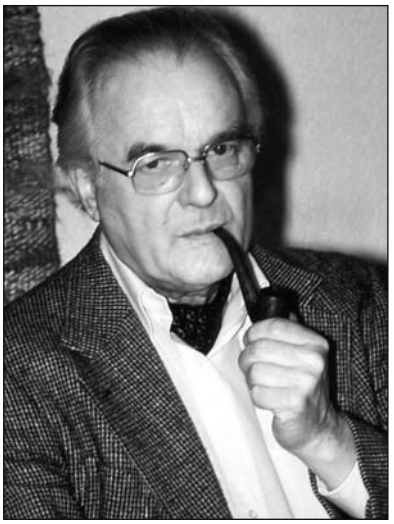
Holger Werfel Scheuermann died on March 3, 1960, in Copenhagen. Scheuermann's name is well known to the orthopedic world. He was the first to describe juvenile kyphosis, which in many countries is now known as Scheuermann's disease.

Scheuermann was the son of a practitioner from Hørsholm, near Copenhagen. He was born on February 12, 1877, and graduated in 1902. He was trained both as an orthopedic surgeon and as a radiologist. From 1916 to 1919, he was assistant surgeon to the Society and Home for Crippled in Denmark. From 1935, he was chief radiologist to the municipal hospital, Sundby, Copenhagen. He retired in 1947.

Scheuermann described juvenile kyphosis in 1920–1921, when radiology was in its youth. His concept of the pathology and disturbances in the ossification of the end plates of the vertebrae is not unanimously accepted, but his description of the disease can be said to be classical and has not been improved upon by later authors.

Internationally, Scheuermann was probably the most well-known Danish radiologist. Apart from his work on juvenile kyphosis, his studies from 1932 on the normal and pathological sella turcica are internationally known. In 1937, he also described a radiographic technique for exposing optic foramen, which also gives him credit. Although his work on juvenile kyphosis was original, unaccountably it was not accepted for the doctorate degree of the University of Copenhagen, and he was over 80 when the University in 1957 elected him Honorary Doctor of Medicine in recognition of his work. It was touching to witness his happiness on receiving this honor, although it was given him so late.

Scheuermann had a gentle and quiet personality, and his mind was engaged in practical and scientific problems. He was always to be seen at scientific meetings, not only of the Radiological Society but also of the Danish Orthopedic and Surgical Associations. He often traveled in other countries on his scientific bent; he told me once how envious he was when visiting Schmorl because of Schmorl's immense patho-anatomical material and facilities for investigation.



Robert SCHNEIDER

1912–1990

Robert Schneider was born in Biel in 1912, studied medicine in Bern and spent one semester in Paris. In 1937, he began to specialize in general surgery and in 1947 became a senior resident under Professor Lenggenhager. Despite academic leanings, he took the post of surgeon-in-chief in a community hospital in Grosshöchstetten, a rural village near Bern. Shortly after arriving there, I met him and we developed a fraternal relationship, which lasted for 38 years. After meeting four of his surgical friends, I organized for them a course on "Stable Internal Fixation," in October 1956 at the Balgrist Hospital in Zürich. A year later, we decided to found an "Association for the

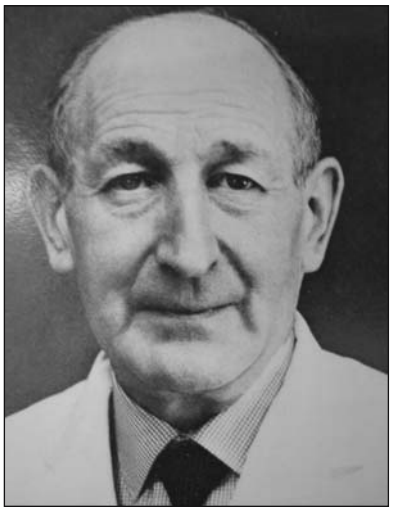
Operative Treatment of Fractures"—subsequently AO. The six founders adopted the following principles:

1. "Good" is what is good for the patient and satisfies the needs of the surgeon.
2. All procedures to be simple and described in simple terms.
3. Each operatively treated fracture to be documented and evaluated.
4. Documentation to include copies of all x-rays and slides, available to the group.
5. Each failure to be analysed and its cause determined.
6. The results to be statistically analysed.

Robert Schneider adhered to these principles throughout his professional career. In 1959, he became the first chairman of the AO—a post he held for 20 years. His critical self-evaluation, his grasp of complex issues, his ability to unveil links between seemingly unrelated events, and his many discoveries, earned him great respect nationally and internationally.

In 1968, he published *The First 10 Years of AO*. A later book, *25 Years AO Switzerland*, is a treasure house of AO information. Written in German, the book sadly was never translated into English. Some 22 other publications were but a prelude to his major work, a 300-page treatise *The Total Hip Prosthesis, a Biomechanical Concept and Consequences*. Robert Schneider received numerous honors, but he remained, nonetheless, a modest, friendly man.

In many countries he was "the father of the AO." He remained in practice until the time of his sudden death, just as he put in the last skin suture after a hip arthroplasty. Robert Schneider will stay alive in the memory of all those who had the privilege to know him.



Sir Herbert SEDDON

1903–1977

Sir Herbert Seddon was born in 1903 in Derby and educated successively in Manchester, in Oxford and at St. Bartholomew's Hospital, graduating from the latter in 1928 with the Gold Medal. In 1930, he went to Ann Arbor, Michigan, as an instructor in surgery. There he met a graduate of the university, Mary Lytle, and married her in Marquette, Michigan, in 1931. On his return to England, he was appointed resident surgeon at the then relatively new and small Stanmore branch of the Royal National Orthopedic Hospital. In this period of his life, Seddon developed his immense knowledge of spinal tuberculosis and poliomyelitis. These problems remained of interest to him throughout his life and he made many contributions to both conditions. In more recent years, when these two problems had receded in importance in Britain, he advised many developing countries on how to manage these diseases, still overwhelmingly common in many of them.

It was while at Stanmore that he made his initial contribution to the pathology of paraplegia in spinal tuberculosis. He clarified the pathogenesis of paraplegia and showed clearly that it was due to the intervertebral abscess bulging backwards against the cord, and that it was not the kyphosis that caused cord damage. He also distinguished between this early, acute paraplegia due to an abscess and late-onset paraplegia due to gliosis secondary to a long-standing kyphosis and ischemia.

This understanding allowed Alexander and later Capener to develop their concept of anterolateral decompression of the cord, which so fundamentally altered the outlook for these tragic patients. Seddon became highly expert in operating on these cases and with Roaf and Lloyd Griffiths in 1956 published a monograph, *Pott's Paraplegia*.

In 1940, he was appointed as the first Nuffield Professor of Orthopedic Surgery in Oxford University. He was then only 37 years of age. His early promise, evident at Stanmore, was amply confirmed during his 8 years at Oxford. For most of this time, Seddon directed one of the peripheral nerve injury units established to deal with the large number of military casualties. His accurate observations, meticulous records and scientific exactitude brought clarity to a surgical area notorious for obscurity. Seddon's work during this time undoubtedly contributed more to our knowledge of peripheral nerve repair than that of any other surgeon. He continued his interest until his death and was undoubtedly the foremost surgeon in this field. His masterly book, *Surgical Disorders of the Peripheral Nerves*, first published in 1971, is the most important treatise on the subject.

After the war, a most imaginative development occurred in London. The university, utilizing the many specialist hospitals in London, created postgraduate institutes centered on these hospitals and embracing all specialties. Thus in 1948, the Institute of Orthopedics was created at the Royal National Orthopedic Hospital, with Seddon as its first director.

His greatest contributions were yet to come from this appointment. Although the Royal National Orthopedic Hospital, Great Portland Street had a long history and very distinguished alumni, the hospital itself had never become important; it took second place to the undergraduate teaching hospitals in the lives of the surgeons on its staff.

Within an incredibly short time the hospital and institute became a great center for orthopedic surgeons from all over the world who came to train: it was a veritable Mecca for surgical visitors. Seddon had a remarkable intellectual grasp of the fundamentals of surgical teaching and research and understood fully the potential of the institutes. It may truly be said that he was the principal architect in the creation of the Institute of Orthopedics. This certainly equals in importance his many scientific contributions to orthopedic knowledge and these were of profound importance.

Seddon remained as director of studies of the Institute of Orthopedics until 1965. Then a chair of orthopedic surgery was funded by the National Fund for Research into Crippling Diseases and he was appointed to this new chair, retiring in 1967.

He was honored by a knighthood conferred in 1964. He received an honorary FACS and honorary degrees from Grenoble, Malta and Glasgow. He was president of the British Orthopedic Association 1960–1961.

During his tenure of office, the work of the hospital expanded enormously both at Great Portland Street and Stanmore. Special units were created to concentrate on difficult orthopedic problems. Men working at the institute made many contributions to orthopedic surgery during this epoch.

To many, Seddon seemed austere, even remote. He was a perfectionist and demanded similar standards from those around him. To many who worked with him, he became an admired senior and a warm friend. He showed them the potential of scientific surgery and the role of the academic surgeon. Surprisingly to some who did not know him well, he had a marvelous, incisive wit, making comments so perceptive and amusing that they remain long remembered.

In addition to his work at the institute, his mastery of administrative thinking led him to be much used by the Medical Research Council and the University Grants Committee in developing research and teaching. The Colonial Office were ever anxious to have his advice, initially to plan care following the large poliomyelitis epidemics in Malta and Mauritius and later in the development of medical services, particularly in the African colonies before they became independent.

In retirement he undertook a worldwide collaborative study, a controlled trial to compare surgical and conservative methods of treating spinal tuberculosis. This study, now published, is one of the most carefully planned studies ever essayed in orthopedic surgery, uniquely employing his gifts and a most eloquent memorial to them.

Earlier an enthusiastic mountaineer and photographer of great skill, he later taught himself to paint and proved to have a happy talent, which in retirement was often employed. Brought up as a strict Plymouth Brother, his Christian faith remained fundamental throughout his life. Later

he was received into the Anglican Church and found much pleasure in his local church affairs at St. John's, Stanmore.

Sir Herbert Seddon died peacefully on December 21, 1977, at 74 years of age. His influence on British orthopedics, and indeed on world orthopedic surgery, had been immense. His reputation as a scientific surgeon is likely to increase rather than diminish as the years pass, for his many original contributions are so tried and tested that his work will survive.

When Sir Herbert resigned from the Nuffield Chair of Orthopedic Surgery in Oxford to return to the Royal National Orthopedic Hospital in 1948, he had already been resident surgeon at Stanmore between 1931 and 1940 and had worked with many of the consultant staff, the majority of whom had been appointed 2 years before. The Postgraduate Federation had been formed and the Institute of Orthopedics was already in being under its dean, Mr. H. Jackson Burrows. Sir Herbert became the director of studies of the institute and clinical director of the hospital.

Under his leadership there was a rapid growth in enthusiasm for this new concept of a group of orthopedic surgeons working together in different fields, and combining together to teach and train the increasing number of keen young men. With J.I.P. James as assistant director, he made this training a top priority. The rapid change from the rather personal apprenticeship system to a guided specialist education with a number of teachers was not always immediately appreciated, and Sir Herbert spent many hours with individual registrars discussing their progress and plans. He often persuaded Mary to invite them and their wives to dinner at Moor House. After dinner, informal discussion might take place, and the rose garden at one time acquired, wrongly, a somewhat sinister reputation!

Registrars were helped to plan research investigations and meetings were organized at which they could try out their ideas before their peers—now almost a universal practice.

Regular bedside consultant teaching ward rounds continued for most of the junior staff, and particularly for his own. Men from other London hospitals as well as postgraduates were included, so that the attendance became too large to be accommodated in the wards, and the demonstrations were transferred to the lecture theater. Thus began the Wednesday teaching day, which continues and is still expanding.

Sir Herbert's examination of patients was a perfect example to those in training: the careful unhurried history taking, the clinical examination and the outline of investigations—always carried out calmly and patiently, and much appreciated by patients of all ages. Clinical notes, whether dictated or in his own handwriting, were written with the greatest care and clarity, and the house surgeon or registrar whose records were slapdash was properly called to task and effected an immediate improvement!

Operations were usually carried out personally. He was a gentle expert surgeon, especially in his own particular fields, but once an assistant had shown himself to be completely competent, he was fully trusted and Sir Herbert had no qualms about delegation. He believed that the operator should write the operation note, in his own case often with a diagram to eliminate any doubt. These notes and drawings were of great value to himself and others in retrospective research.

Sir Herbert had a wonderful ability to reduce a complex and untidy problem, be it clinical or administrative, to its essentials. The apparent ease and simplicity with which the final conclusions were presented must be emphasized, and were seldom, if ever, the result of a sudden brainwave but rather of intense concentration of a superbly trained mind. The subject was then presented in an orderly, logical manner, easily understood and remembered. He could project with equal ease to the level required, to nurses, to men or women at an early stage of orthopedic training or to other experts in one of his particular specialties—and when required, in French!

Anyone privileged to work with Sir Herbert Seddon as pupil or colleague has learned his subject in a way he will never forget and will be forever grateful.

With the death of Sir Herbert Seddon at the close of 1977, British orthopedic surgery lost one of its greats. Genius has been defined as an infinite capacity for taking pains. This describes Jim Seddon in a nutshell. Whether it was in the operating theater tackling a difficult nerve repair, or preparing a lecture, or even learning the steps of a new dance in his office at Oxford, the same concentration and meticulous care was always present.

He came to Oxford in 1940 to succeed Gathorne Girdlestone as the first Nuffield Professor of Orthopedic Surgery. Girdlestone had built up the Wingfield Morris Hospital—now the Nuffield Orthopedic Centre—from nothing, and understandably over the years was regarded by patients and staff alike as little less than the Deity. Furthermore, with the advent of Seddon as professor and director of the hospital, the fact that the former director was still very much active did little to ease the difficulties of the new encumbent. It would be hard to pick two brilliant men with such differing characters. However, there is no doubt that, despite the inevitable clashes of personality, there was a deep mutual respect.

I came to Oxford in 1944 when the hospital still housed many wounded servicemen, and the Peripheral Nerve Injury Unit was a flourishing concern. The first and overwhelming impression of H.J.S. was of a man who was very precise and accurate in recording his own observations, and who expected his juniors to be the same, always insisting that their observations should be written down at the time. His strict regard for accuracy and intellectual honesty made him a welcome collaborator with scientists in other departments of the university, in particular J.Z. Young and Peter Medawar in the Department of Zoology. It was these links, and others, that enabled him to establish a scientific basis for the clinical research that he was undertaking on peripheral nerve injuries. There is no doubt that this background, together with his capacity for ensuring a high quality of note taking and recording, established the international reputation of the Oxford Peripheral Nerve Injury Unit—one of five set up by the Medical Research Council in Britain.

Because Seddon expected those around him to have his own standards of honesty and precision, he was always prepared to delegate a good deal of responsibility, and his delight knew no bounds when a member of the team showed sufficient initiative to establish a reputation in some aspect of the joint work. It is hardly surprising that he gathered round him a team of men and women who gladly and unsparingly gave of their best to him.

The results of this teamwork found expression in the report of the Medical Research Council on peripheral nerve injuries and later in his own book, *Surgical Disorders of the Peripheral Nerves*. Both indeed are fitting tributes to the work of the man himself and the team he directed. He laid the foundations of peripheral nerve surgery in this country. It seems unlikely that, even with the advent of the operating microscope, the working rules for the treatment of such injuries will change for many years to come.

During his years at Oxford, epidemics of poliomyelitis first in Malta and later in Mauritius led Seddon to these countries. There his remarkable organizing ability and enthusiasm enabled him to establish treatment centers with the help of the local doctors. Furthermore, the physiotherapists, often working in difficult circumstances, were taught to record their observations on muscle charts, so that the information could be used later for clinical research. He also developed simple splints that could be made locally by ordinary craftsmen and which proved very valuable in the prevention of deformity.

Acute poliomyelitis inevitably brought him into close contact with children who were sometimes frightened, and often in pain. Jim's kindness and gentleness and great sense of fun gave much-needed reassurance to parent and child alike. Children loved him and he was never so happy as when among his "chicks."

During the war years, while his family were in the United States, Seddon lived with his parents and latterly his mother, who acted as hostess. No account of the Oxford days would be complete without reference to this remarkable Yorkshire lady, who took such a mischievous delight in teasing "the Professor," of whom she was so proud.

As a Fellow of Worcester College, he enjoyed to the full dining in a traditional atmosphere, with stimulating conversation far removed from clinical orthopedics.

In these days, with an orthopedic training scheme that is not too dissimilar from musical chairs, one looks back wistfully to an apprenticeship of some 15 years with a man whose goodness and kindness one can never repay, but will never forget.

Nicholas SENN

1844–1908

Nicholas Senn was born in Switzerland and was brought by his immigrant parents to Fond du Lac, Wisconsin, as a child. After graduating from the local high school, he taught school for a short time before working as a preceptee with a local physician. He graduated from the Chicago Medical School in 1868 and was an intern at the Cook County Hospital for 18 months, before returning to a rural practice in Wisconsin. After 6 years, he moved to Milwaukee and was on the staff of the Milwaukee Hospital. In 1877, he spent a year studying in Munich with Professor Nussbaum, who had visited Lister and was a strong advocate of antiseptic–aseptic surgery. After his return to the United States, Senn was made professor of surgery in the College of Physicians and Surgeons in Chicago, and moved on to become professor of surgery at the Rush Medical College in 1888. About this time, his surgical clinic was one of the busiest in the world, and he attracted international students. A man of inexhaustible energy, Senn wrote incessantly, traveled, served as a medical officer in the Spanish–American War, and even found time to serve as president of the American Medical Association in 1897. He was chairman of the editorial board at the inception of *Surgery, Gynecology, and Obstetrics* in 1905. Following his death in 1908, his library of 40,000 volumes and 60,000 pamphlets became the nucleus of the great medical reference section of the John Crerar Scientific Library in Chicago.

Senn was the first surgeon to advocate the reduction and nailing of hip fractures on the basis of animal experiments. In this aspect he was far ahead of his time. When his paper, "The treatment of fractures of the neck of the femur by immediate reduction and permanent fixation," was first presented at the meeting of the American Surgical Association on June 1, 1883, its concepts were vigorously opposed by all of his listeners, provoking Senn to say: "Any person who can hit the head of a femur in a cat will certainly not miss it in operating on a human subject." However, because of this opposition, he eschewed nailing his patients with hip fractures and treated them by reduction and immobilization in plaster spicas, a method popularized by Royal Whitman. His emphasis on the importance of the impaction of the fractures after reduction was echoed years later by Cotton.[1]

Reference

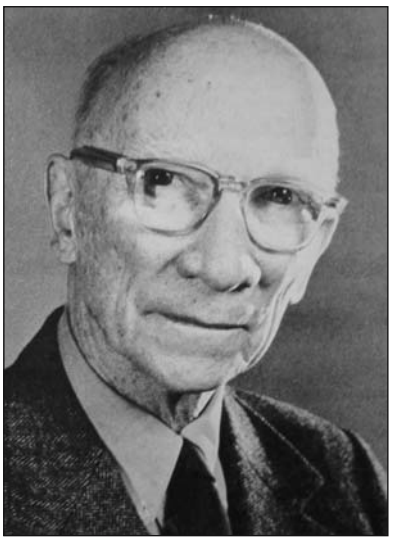
1. Salmonsen EM (1928–1935) Nicholas Senn, MD, PhD, LLD, (1844–1908) Master surgeon, pathologist, and teacher. Bulletin of the Society for Medical History (Chicago) 4:268

Newton M. SHAFFER

1846–1928

Newton M. Shaffer succeeded Charles Fayette Taylor as chief of the New York Orthopedic Dis-

pensary and Hospital. In addition he was orthopedic surgeon at St. Luke's Hospital in New York City. He was the first to describe clinically the deformity that since has acquired a number of synonyms, including that of high contracted arch. His name was used as an eponym for several decades: "Shaffer's nondeforming club foot."



Alfred Rives SHANDS

1899–1981

Alfred Rives Shands, Jr., was born in Washington, DC. His father was the first orthopedist to practice in the district. When he was 14 years of age, his father, Alfred R. Shands, Sr., was president of the American Orthopedic Association. The young man graduated from the University of Virginia in 1918 and enrolled in Johns Hopkins Medical School. He remained at Johns Hopkins Hospital for surgical and orthopedic training until 1927. He returned to Washington, DC to join his father in practice until 1930, when he was invited to Duke University Medical School to initiate the Department of Orthopedic Surgery and the orthopedic residency program. In 1937, Shands left Duke University to become medical director of the Alfred I. duPont Institute in Wilmington, DE.

His first task at the institute was to plan and supervise the construction of a children's orthopedic hospital on the grounds of Nemours, the estate of Alfred I. duPont. The hospital was completed in 1940 and Shands became surgeon-in-chief, a position he held until 1962. He remained medical director of the institute until 1969. During World War II, Shands served as the senior consultant for orthopedics for the United States Air Force.

Shands made many contributions to the care of children who are crippled, which are reflected in his numerous publications. His *Handbook of Orthopedic Surgery* became an important educational resource; nine editions were published. Perhaps his greatest contribution to orthopedics was his essential role in the formation of the Orthopedic Research and Education Foundation, and his support of the Orthopedic Research Society. He was honored by elected positions in various orthopedic and other groups. He was a recipient of numerous honorary memberships and honorary degrees. His distinguished presence was noted at the annual meetings of orthopedic societies, where he was especially friendly and encouraging to the young investigators.

As a historian, Shands will be remembered for his article about the development of orthopedics as a specialty in the United States. Many historic articles were published in *The Early Orthopedic Surgeons of America*.[1]

Reference

1. Shands Jr AR (1970) The Early Orthopedic Surgeons of America. St. Louis, CV Mosby Co

William John Wells SHARRARD

1921–2001

William John Wells Sharrard was one of the outstanding orthopedic surgeons of his generation. He came from a medical family. His mother had a glittering career in the Sheffield Medical School.

After education at Westminster School, where he was a King's Scholar, he entered the medical school in Sheffield in 1939, and graduated with honors in 1944. His first appointment as house surgeon to Frank Holdsworth was the start of a lifelong addiction to orthopedics. After a lectureship in anatomy and a period in the Royal Air Force, he completed his training at the Royal National Orthopedic Hospital. It was during this time, as lecturer to Professor Herbert Seddon, that he concluded his painstaking and brilliant study of the pattern of cell destruction in the spinal cord in poliomyelitis. For his thesis on this subject, he was awarded an MD with distinction.

He returned to Sheffield in 1955 as a consultant, working with Holdsworth at the Royal Infirmary and the Children's Hospital. The workload was enormous, and as Holdsworth had limited time to give to pediatrics, John Sharrard began to develop what was to become an internationally respected center for orthopedics at the Children's Hospital. His industry was awesome, his stamina prodigious, and his sense of time appalling. He needed little sleep and habitually worked until the early hours. New registrars were astonished to be telephoned at 2 or 3 a.m. to discuss the operating list for the next day! He would, however, always give his full attention and time to encourage their research and promote their careers.

With the decline in poliomyelitis he turned his attention to cerebral palsy. He clarified the mechanism of the deformity and the origin of contractures, and developed guidelines for the prevention and treatment of these complications. The large number of patients with myelomeningocele and varying degrees of paralysis of the lower limb who had survived as a result of early closure of the spinal lesion presented another problem. A special clinic had to be established for the orthopedic management of these children, who often required multiple operations for their deformities. John Sharrard's enormous experience in this field led to another thesis, for which he was awarded ChM with commendation.

In addition to his commitments to the National Health Service and a large private practice, John traveled widely as visiting professor and as an invited lecturer to cities in North and South America, South Africa, Europe and the Middle East. At home he was Hunterian Professor, Robert Jones Lecturer, Arris & Gale Lecturer and Joseph Henry Lecturer of the Royal College of Surgeons of England. He served two full terms on the Council of the College. In 1962, he founded the Orthopedic Research Society and was its president until 1964. He was president of the British Orthopedic Association in 1978–1979. He was an enthusiastic member of SICOT and served as the UK national delegate, European vice president and president of the Triennial Congress held in London in 1984. His fluency in French was a considerable advantage when for many years he presided over the Monospecialist Committee in Orthopedic Surgery to the European Union, and as president (and founder) of the European Pediatric Orthopedic Society.

He still found time to publish well over 100 papers mainly concerned with paralysis in children, and more than 30 chapters in books. His *magnum opus* was his book *Paediatric Orthopedics and Fractures*, first published in 1971, which ran to three editions. The last of these was completed in 1993, after retirement, and required the review of 2,500 new papers on the subject.

In 1985, the University of Sheffield, rather belatedly, awarded him an associate professorship.

It is not unusual for very high achievers to be multifaceted. John was a talented musician, able to perform on the violin, organ, and particularly

on the piano. He said that he once, very nearly, joined a well-known dance band instead of doing medicine! Thankfully, he changed his mind.

He died in Sheffield on 31 March 2001 after a stroke and a disabling illness lasting 2 years. He leaves his wife Peta, and two sons, and a son and daughter from his first marriage.

Harry M. SHERMAN

1854–1921

Harry Sherman was clinical professor of orthopedic surgery in the medical department of the University of California. Elected to the American Orthopedic Association in 1889, he became one of its most active members and in 1900 was elected president. An original thinker, a brilliant surgeon and an honest seeker after truth, he refused to accept the current methods of treatment. He was one of the first to advocate early operation in tuberculosis of the hip (1893) because of the slow unsatisfactory course of cases treated conservatively. He practiced excision of the knee in children and took care to conserve the epiphysial cartilage (1897). He had the courage to report unsatisfactory results with the Lorenz reduction of congenital hip dislocation at a time when other orthopedic surgeons were lavish in their praise of the method. His presidential address was devoted to the same theme as that of his modern successor, Le Roy Abbott—the place of orthopedic surgery in the medical school curriculum.

David SILVER

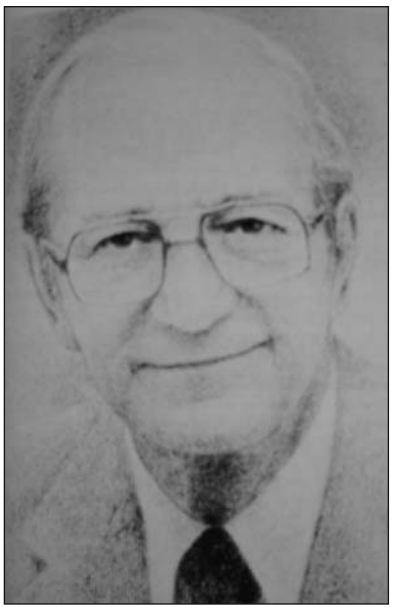
1873–1946

David Silver was born in Wellsville, Ohio, March 16, 1873, the son of David Silver and Nancy Elizabeth Hammond Silver. He was graduated from Exeter Academy and Harvard University. After he had received his degree of Doctor of Medicine from Harvard Medical School in 1899, he did postgraduate work in Germany and Austria until 1901. Soon after his return to the United States, he entered upon his practice in Pittsburgh. He actually established orthopedic surgery in Pittsburgh, and achieved outstanding success in this field.

Dr. Silver was professor of orthopedic surgery at the University of Pittsburgh for many years, and later was professor emeritus. He was head of the orthopedic department of the Allegheny General Hospital, Pittsburgh, for 30 years. From the time of its establishment in 1919 until 1944, he was in charge of the D.T. Watson Home for Crippled Children at Leetsdale, Pennsylvania. He was consulting orthopedic surgeon at the Children's Hospital, Pittsburgh Hospital, and the Industrial Home for Crippled Children. He was orthopedic consultant for the United States Army during World War I, in the Surgeon General's office.

He contributed to the literature many publications dealing with orthopedic problems. His medical affiliations included the American Medical Association, the Medical Society for the State of Pennsylvania, the Pittsburgh Academy of Medicine, the American Board of Orthopedic Surgery, the American Academy of Orthopedic Surgeons, and the Clinical Orthopedic Society. He was a founder and fellow of the American College of Surgeons. He became a member of the American Orthopedic Association in 1906, served as president during the year 1916–1917, and was always deeply interested in the work of the association.

Dr. Silver died at Orlando, Florida, March 22, 1946. His wife, Elizabeth Roadman Silver, survived him.



Donald Barclay SLOCUM

1911–1983

Donald Barclay Slocum was born in Portland, Oregon, on April 11, 1911. He was awarded a Bachelor's degree from Stanford University, a Doctor of Medicine from the University of Oregon Medical School in 1935, and a Master's degree from the University of Tennessee in 1939. He did postgraduate work in orthopedic surgery at the University of Iowa and was a fellow in orthopedic surgery at the Willis C. Campbell Clinic, Memphis, Tennessee.

Dr. Slocum entered the military in 1941 as a first lieutenant. His service included chief of orthopedics, Letterman and Torney Hospitals, Palm Springs, California, and chief of the amputation section, Walter Reed Hospital, Washington, DC. During his military service, he became aware of the difficulties that prosthetic specialists had with the design and finding of artificial limbs. Working with Djon Mili, he filmed sequences that showed natural human gait and gait with artificial limbs. The stop-action sequence pictures documented hip, knee, ankle, and foot angles for every fraction of the human pace. The work became a part of Slocum's *Atlas of Amputations*, a respected orthopedic textbook of its time.

A lieutenant colonel at the war's end, Dr. Slocum left military service in 1946 and returned to Eugene, Oregon, to set up a specialty orthopedic practice. He became interested in repairing knees so that maximum activity could be pursued, whether by a professional athlete attempting to continue in competitive sport or an injured millworker wanting to lead a normally productive life. In 1962, Dr. Slocum developed the pes anserinus transplant to realign the muscles and tendons for injured ligaments in order to prevent rotatory instability.

Although his earlier work had centered on injuries to the shoulder, arm and hand, Dr. Slocum's surgical labors began to center on the knee. He collaborated with Bill Bowerman, the nationally recognized track coach at the University of Oregon, in producing a study, "Biomechanics of Running," which had great impact on the coaching of track-and-field athletes. Concurrently, his growing prominence in athletic medicine slowly changed the nature of his clientele and his work. Dr. Slocum became the master of gait and kinesiology, and gave annual symposia on the biomechanics of running. He lectured, wrote innumerable articles for medical journals, and traveled all over the world sharing knowledge of the knee. He chaired many committees; served as chief of orthopedic surgery at Sacred Heart Hospital in Eugene, Oregon, and professor of orthopedics at the University of Oregon Medical School, Portland; and was a member of the American College of Surgeons, State Advisory Committee. In 1975 he was named "Mr. Sports Medicine" by the American Orthopedic Society for Sports Medicine.

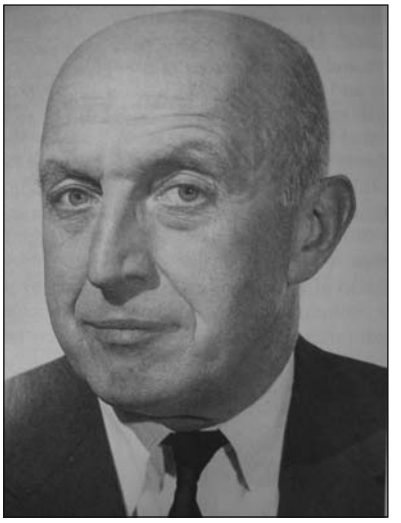
While fame and success were constantly at his doorstep, Dr. Slocum never lost his genuine love of and contact with people. The Register Guard

noted in describing Dr. Slocum, that he approached "the whole business of the knee and its intricacies with a healthy measure of scholarly curiosity, a bit of respect for the Original Designer, and enough self-effacing wit to keep his considerable technical accomplishments in perspective."

Not all of Dr. Slocum's contributions were related to surgery, however. He was well aware of social problems, and was always looking for ways to improve the human condition. In 1947, he was instrumental in establishing the Easter Seal School and Treatment Center in Eugene. For years he sponsored scholarships for students in sports at the University of Oregon and served on the Board of the University of Oregon Development Fund. An avid historian, he lectured on subjects relating to the pioneers, the growth of the colonies, and the courage of our forebears.

Dr. Slocum's desire for learning was unquenchable. Even on his death bed, ill with leukemia, he read computer books and magazines, trying to comprehend another world. Dr. Stan James described the essence of Donald Slocum's thirst for knowledge: "If Don was set down in the middle of the Sahara Desert, he would have learned all that there was to learn about each grain of sand there."

On July 3, 1983, the world lost one of its greatest innovators, master surgeons, and teachers. Recognized by orthopedists and sports-medicine specialists as a giant in his field, Dr. Slocum made innumerable contributions to his associates, as well as to the multitude of patients under his surgical care. Guided by a strong desire to learn and contribute, Dr. Slocum changed the direction of orthopedic surgery and made an incredible difference to the world at large.



Ian Scott SMILLIE

1907–1992

Ian Smillie's career was guided by the pursuit of excellence and a single-minded intent to establish orthopedic surgery as a specialty in its own right. He became a leading world authority on the knee.

He graduated from Edinburgh University in 1931 and obtained the Fellowships of the Royal Colleges of Edinburgh and of Glasgow in 1935. After 3 years as a clinical assistant to Sir Walter Mercer, he was placed in charge of the war-time Emergency Medical Service Orthopedic Hospital at Larbert in 1939. There he developed a team of expert surgeons, nurses and therapists and an orthopedic workshop, which eventually spawned virtually all the senior orthotists in Scotland. When he left this hospital, which housed 500 patients, he was appointed Officer of the Order of the British Empire.

In 1948 he became surgeon-in-charge of the orthopedic service of the Eastern Region of Scotland and also gained the Gold Medal at the ChM examination of the University of Edinburgh. He was a Nuffield Traveling Fellow to the United States of America and Canada in the same year. At the Bridge of Earn Hospital, he further developed his team concept and his ideas on the continuum of rehabilitation—each trainee spent one element of his rotation in the hospital's rehabilitation unit. He also established orthopedic clinics in Dundee, not with the entire approval of some of the general surgeons.

In 1967, he was appointed professor of orthopedics in a newly established chair of the Uni-

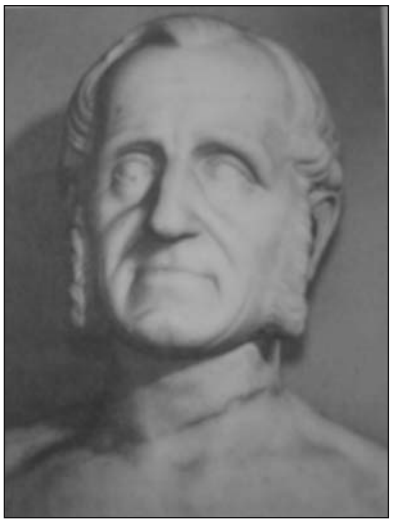
versity of St. Andrews. When the advanced medical school was transferred to Dundee, he became professor of orthopedics of that university. By this time he had established himself as one of the few world authorities on the knee, while continuing to be a brilliant and inventive surgeon, as well as an unusually charismatic and effective teacher. This was recognized by invitations to teach in many parts of the world, including North, Central and South America, Europe, the Mediterranean, and the Near and Far East. In all these places his monographs on *Injuries of the Knee Joint* and *Diseases of the Knee Joint* had preceded him. The first went into five editions and was translated into several languages. These publications were the result of personal observation, data collection, careful pathological analysis and considered judgment. The operations that he described were effective and saved many knees from considerable malfunction. Although some of these procedures have been superseded by new technology, the basic principles of comprehensive assessment, accurate diagnosis, and progressive rehabilitation still hold. Smillie's academic and professional career was finally capped by his presidency of the International Society of the Knee from 1981 to 1983.

He had many interests outside medicine: he raced exotic cars at Brooklands in the 1930s, and his serious interests included philately and photography. His pervasive interests were farming, fishing and stalking—he published *A Guide to the Stalking of Red Deer in Scotland* in 1983.

Ian Smillie was a complex character; sometimes defensive, always enthusiastic, lacing his discussion and instruction with humor. He could be cutting in debate, but equally generous in praise when this was deserved. On one occasion, an arch-rival attacked his techniques and the knives that he had designed, saying "The only use for which I can recommend Mr. Smillie's knives is to sharpen pencils." The auditorium was silent with expectation as Smillie rose. He looked around, then said "I have to agree with Mr. X." The audience was astonished. He waited for what seemed an age, then continued—"The best possible use Mr. X can make of these knives *is* to sharpen pencils". He was basically a very generous man and marvelously hospitable, as many surgeons from different parts of the world will testify.

His contribution to knee surgery was immense and surgeons everywhere will miss him, as will all the "boys" whom he trained, not only for what he gave them, but also for his style, and a certain flamboyance. I remember my first sight of him in hospital whites, smoking a Burma cheroot; a more persistent image through the ensuing years was of the "wee man' dressed in an elegantly tailored dark coat and a wide-brimmed, black fedora.

Sadly, his final years were marred by severe physical disability, although his mind remained as alert as ever. Throughout this time he was cared for by his wife Jenny with unfailing devotion. He died at his home near Blairgowrie in his 84th year. He was survived by Jenny, two daughters from his first marriage and Jenny's three children.



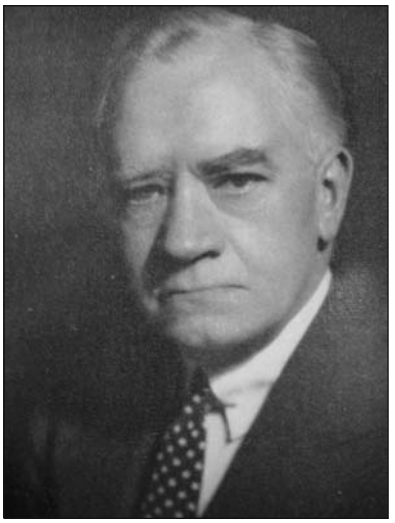
Robert William SMITH

1807–1873

Robert William Smith spent his entire life in Dublin. Among his colleagues were Adams, Cheyne, Graves, Stokes, and Colles, and in this group he was considered an equal. Although he became a professor of surgery at Trinity College, it is in surgical pathology that he made his greatest contributions. His name is kept alive in the surgical literature by its association with a fracture of the distal radius, Smith's fracture.

In 1849, 33 years before the report of von Recklinghausen, Smith published a monograph, *A Treatise on the Pathology, Diagnosis and Treatment of Neuroma*, containing an extensive review of the literature as well as his own observations. These include the report of two cases of neuro-

fibromatosis. The illustrations, "drawn from life and on stone" by the Irish illustrator Connelly, are for the most part life-size. The monograph itself is unusual, being an elephant folio measuring 48 × 70 cm, and is said to be the largest book ever published in Ireland up to that time.



M.N. SMITH-PETERSEN

1886–1953

Dr. Smith-Petersen's name is known to every medical man and woman. He has left his mark by virtue of his skill and thought, with reference to hip joint surgery in particular, but throughout his professional career his strong personality, mixed with a great sense of humility and kindness, attracted his patients, pupils and colleagues very closely to him. Not only was he the "surgical master," but the friend and confidant of all who had the privilege to come into contact with him. Although he was somewhat shy and sensitive as an individual, his powers of concentration and real deep thinking made him a great leader and teacher in the art and science of orthopedic surgery.

He was born at Grimstad in Norway, and went to the United States in 1903, attending Westside High School, Milwaukee, before commencing his university education at the universities of Chicago (1906–1907) and Wisconsin and finally at the Harvard Medical School.

He qualified BS (Wisconsin) in 1910 and MD (Harvard) in 1914, and was awarded an Honorary MD of Oslo in 1946. In Boston, in addition to being instructor in orthopedic surgery at Harvard Medical School (1930–1935) and clinical professor of orthopedic surgery (1935–1946), he became chief of the orthopedic service at the Massachusetts General Hospital (1929–1946). This Scandinavian–American mixture had the strongest anglophile leanings, and these were further developed by his contact with British orthopedic surgeons, in particular Sir Robert Jones in the latter half of the First World War, and subsequently.

From very early days in his medical career, Smith-Petersen was a pioneer. In the course of his Moynihan Lecture in 1947, he himself told the story of the original planning and execution of the anterior approach to the hip joint in 1917, stimulated in the first place by Dr. Roy Abbott, and encouraged later by his chief, Dr. Elliott G. Brackett, with whom he worked in the greatest harmony for many years. Subsequently, this approach was developed into the acetabuloplasty operation, which he described in 1936 for the relief of pain and restoration of function in cases of malum coxae senilis, old slipped upper femoral epiphysis, intrapelvic protrusion of the acetabulum and coxa plana.

Three years later, we find a further development in the form of Vitallium mold arthroplasty, with preliminary trials of several materials, including glass (1923), viscoloid (1925), Pyrex (1933) and bakelite (1938). There can be no doubt that the thought, study and care that Dr. Smith-Petersen put into his work on arthroplasty of the hip provoked worldwide interest and progress, and it is to be noted that a long period of research preceded his final operative technique.

Of course, his fame in connection with the hip joint dates back to 1930-1931, when he introduced the use of the three-flanged nail for internal fixation in femoral neck fractures. At that time, he wrote: "A great responsibility rests on the surgeon who introduces a new method of treatment. The desire to have a new idea published is so great that the originator is often led astray, and the method is broadcast before it has proved worthwhile, and before the technique has been perfected." This humble approach to his work was typical of the man, but there is no doubt that the opposition he aroused as a pioneer made him somewhat hypersensitive to criticism, and this was most apparent in his work on the surgery of sacro-iliac disease. His great aim, both in theory and practice, was to be constructive, and thus we

find him developing many procedures for the relief of pain and restoration of function in the deformed joints of the unfortunate sufferers from chronic arthritis. One of the more dramatic of these operations is spinal osteotomy, for correction of severe fixed flexion deformity, and in 1941 the whole conception of this procedure was worked out on paper to the last detail, before being put into effect most successfully and dramatically.

As an operator, he was slow and meticulous. In this respect he was much influenced by his early training under Harvey Cushing, when doing an internship at the Peter Bent Brigham Hospital (1914–1915), and the exposure and closure of all his operations followed the normal anatomical pattern as closely as possible.

Dr. Smith-Petersen undoubtedly was seen at his best when dealing with patients, either on a ward round or in his office. Every problem was an individual one, and with his quiet smile and sly wink he captivated both patients and pupils alike. No man has ever portrayed the essential spirit of the doctor–patient relationship better. On social occasions, he loved to be surrounded by the younger men who were his students and pupils, "toasting" in a Scandinavian manner, and provoking both thoughtful and humorous discussion, but always reaching and clarifying the fundamental issues at stake.

After the Second World War, he visited Great Britain in 1947, 1948 and 1952. On the foremost occasion, he was made an Honorary Fellow of the British Orthopedic Association, and also delivered the fourth Moynihan Lecture at the University of Leeds. He also took charge of the orthopedic staff conference and operated before a distinguished audience at the London Hospital. At a reception following this occasion, the gift of his characteristic ties will long be remembered by the recipients. It was during this friendly and amusing ceremony that the household dog laid her favorite bone at Dr. Smith-Petersen's feet, this bone was none other than half the pelvis including the hip joint! After the termination of this visit to England, a Jensen silver bowl was presented to him by the staff of the London Hospital at a simple and moving little ceremony, which brought tears to the eyes of this great and sentimental man.

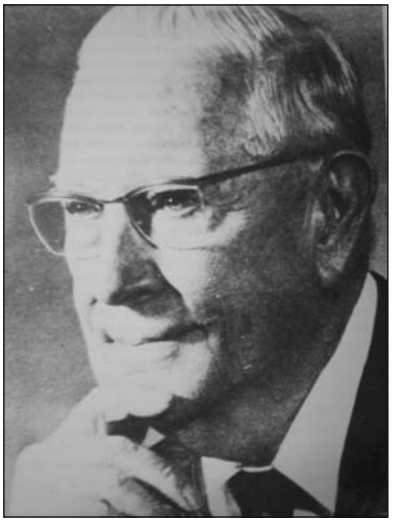
A year before his death, Dr. Smith-Petersen, accompanied by his wife, visited London to be given the Honorary Fellowship of the Royal Society of Medicine, and to attend the meeting of English-speaking orthopedic surgeons in London and the provinces. Fortunately, he had a chance of seeing most of his friends and was able to visit several of their homes.

These visits to Great Britain were always followed by a return to his native land, Norway, where he was held in high esteem. In 1946, he was honored with the award of Commander of the Royal Norwegian Order of Saint Olaf, and received the Grand Cross in 1947. He was also an honorary member of the Norwegian Surgical Association.

Other societies that awarded him honorary membership include the Canadian Orthopedic Association, the Royal Medical Society of Edinburgh and the Italian Society of Orthopedic Surgery and Traumatology. He was a fellow of the American Orthopedic Association, and held the office of president of the American Academy of Orthopedic Surgery in 1943. During the Second World War, he was consultant in orthopedic surgery to the Surgeon General. He was also a member of the International Society of Orthopedic Surgeons, and an associate member of the French Academy of Orthopedic Surgery.

Dr. M.N. Smith-Petersen died on June 16, 1953 at the age of 67, after a short illness.

He was survived by his wife, whom he married in 1917 and who hailed from Fitchburg, a daughter Hilda, and two sons Porter and Morten.



Harold Augustus SOFIELD

1900–1987

Harold Augustus Sofield was born in Jersey City, New Jersey, on March 27, 1900. He grew up in northern New Jersey, where he attended a two-room elementary school that held eight grades. Later he was president of his nine-person high-school class. After graduating, he was called to active duty in the United States Navy; he achieved the rating of Signalman Third Class. After World War I, he attended Columbia College in New York City and then Northwestern University Medical School in Chicago. He interned at San Francisco City and County Hospital from 1928 to 1929, after which he returned to Chicago to enter general practice.

Dr. Sofield spent a good deal of time at Shriners Hospital for Crippled Children in Chicago, where he became acquainted with many of the city's orthopedic surgeons and began a long and brilliant career in that specialty; he later became a staff member at that institution. He was on the staff at St. Luke's Hospital, Chicago, from 1934 to 1942, and at West Suburban Hospital, Oak Park, Illinois, from 1930 until his death.

Dr. Sofield pioneered the operative fixation of fractures of the hip by performing the first nailing of a femoral-neck fracture in the Chicago area. His method of percutaneous nailing using multiple pins became widespread and well recognized. The Sofield nails were made of stainless steel by Gus Dreher, the brace-maker at Shriners. These nails had a screwdriver-type point and were inserted percutaneously under fluoroscopic control. Dr. Sofield published a series of 100 such cases in 1937.

In World War II, he served in the United States Army from 1942 to 1946, first with the Twenty-fifth Evacuation Hospital and then as chief consultant in orthopedic surgery to the South Pacific area, the Tenth Army at Okinawa, and the Pacific. He was awarded the Legion of Merit, a Bronze Star, and five battle stars, and achieved the rank of colonel.

On returning to civilian life, he became chief surgeon at Shriners Hospital for Crippled Children in Chicago; he retained that post until 1965, after which he remained a consultant until his death. He succeeded Beveridge Moore, about whom he often spoke and whom he greatly admired. Dr. Sofield truly enjoyed caring for the children at Shriners and was well known for his technique of multiple osteotomies and intramedullary fixation (the shish-kebab operation) for osteogenesis imperfecta. Rounds, clinics, and surgery were a joy to him. His attitude of open-mindedness, relaxation, good humor, and tolerance were admired by all. His favorite salutation to his young patients, "Hi there, Skeezix," made them all sit up and take notice and assured them that they were receiving his complete attention.

In 1946, he established the orthopedic residency program at the Veterans Administration Hospital in Hines, Illinois. This was coordinated with Shriners and with West Suburban Hospital and was designated as the Hines–Shriners program, of which Dr. Sofield was chief until 1965. (Loyola University later was added to the group.) Many residents have passed through these institutions, which now compose the Sofield Orthopedic Association.

He served as associate editor for *The Journal of Bone and Joint Surgery* and as consulting editor to *Surgery, Gynecology and Obstetrics*. He contributed more than 40 papers to the medical literature and wrote a chapter in *Christopher's Textbook of Surgery* on the treatment of fractures. He also served, starting in 1930, on the faculty of Northwestern University Medical School, where he attained the rank of professor.

Harold Sofield received many honors and held many offices (which are too numerous to list exhaustively) because he truly deserved them and everyone knew that he would do a good job. He was chairman of the Department of Orthopedic Surgery at West Suburban Hospital from 1930 to 1975, secretary of the American Board of Ortho-

pedic Surgery for 8 years and president of that organization from 1955 to 1956, twice president of the Chicago Orthopedic Society, secretary of the American Orthopedic Association for the 1957 and 1958 meetings, president of the American Academy of Orthopedic Surgeons from 1959 to 1960, president of the Chicago Medical Society from 1964 to 1965 and trustee from 1971 to 1976, and a delegate to the Illinois State Medical Society and the American Medical Association House of Delegates. In 1980, he received the Chicago Medical Society Public Service Award and in 1981, the Sheen Award, consisting of a plaque and $15,000, from the American Medical Association. He was a founder of the Orthopedic Research and Education Foundation in 1956 and served as its first secretary–treasurer. He modestly said that Al Shands, president, delivered the Foundation while he just held the retractors.

During the spring, summer, and fall, he played golf regularly, and he was quite good at it. Photography was another hobby, and, as expected, the results were above average.

On April 19, 1934, he married Ruth Robinson, a delightful woman who never forgot a face or name and impressed all residents who passed through his program. This lovely lady helped immeasurably in editing her husband's writings and in supporting his very active career. Their son, David, is a professor of English literature at Amherst College, and their daughter, Julie Tholander, lives in Billerica, Massachusetts.

Harold Sofield was an exceptional person who used his talents well. He helped others immeasurably, took great pleasure in doing so, and was appreciated by many people. Having worked with him as a resident, an associate, and a partner, I can truly vouch that here was a great man who left an indelible mark on thousands of lives. It had been his custom to invite all of his past and present residents and their spouses to his home on the afternoon of New Year's Eve. How fitting it was that he should pass on at that very hour, on New Year's Eve of 1987.

Edgar William SOMERVILLE

1913–1996

Edgar Somerville, who retired from surgical practice at the Nuffield Orthopedic Centre, Oxford, in October 1977, died on March 9, 1996. He was an outstanding figure of the generation that developed pediatric orthopedic surgery in the UK in the postwar years. The son of a general practitioner, he was educated at Shrewsbury School, at Cambridge University and then at St. George's Hospital, London. He qualified in 1938 and, after house appointments at St. George's, joined the Royal Air Force as a medical officer, serving at home and in the Middle East. He was demobilized in 1946 as a wing commander and after 2 years at the orthopedic hospital at Oswestry he was appointed consultant surgeon at what was then the Wingfield Morris Hospital in Oxford. In the autocratic manner of those days, his appointment was made without an interview by the hospital's founder, Mr. G.R. Girdlestone.

Somerville first made his name as coauthor with Girdlestone of the second edition of the book *Tuberculosis of Bones and Joints* (1952) and for the next 30 years he was always at the forefront of British orthopedics. He gradually became a specialist in the treatment of children's deformities, but never gave up his interests in other aspects of surgery. His most famous contributions were the papers he wrote about the pathology and treatment of congenital dislocation of the hip. He was one of the first to advocate a direct surgical approach, stressing the role of the inverted limbus in preventing concentric reduction. The

"Somerville" method, which he taught to surgeons from all over the world, was a logical sequence of procedures in which a period of traction on a Wing field frame was followed by contrast arthrography of the hip and excision of the limbus if it was inverted. The leg was then immobilized in a plaster spica in full internal rotation for a month, when a derotation osteotomy was performed. His method contrasted with the long periods of splinting, and the uncertain outcome, of the "conservative" methods often used at that time.

The children whom he treated were never discharged from his care, most being examined personally once a year in Oxford at clinics that soon became study sessions on skeletal development. Miniaturized radiographs, meticulously mounted on a large cardboard sheet, told the story of each child's hip. Like frames from a slow-motion cinematograph, the yearly films were used to teach the importance of the fourth dimension in pediatric surgery. To maintain these records, patients were relentlessly pursued; the international network of Somerville's trainees made escape, even by emigration, almost impossible. The unique archive that resulted is maintained to this day, and mothers who were themselves treated by him in infancy now bring their own babies to the clinics.

Somerville also wrote on congenital coxa vara and was among the first to practice osteotomy for Perthes' disease. He also introduced the concept of "persistent fetal alignment" of the hip in a short paper in *The Journal of Bone and Joint Surgery*, which is a good example of the clarity of his thinking and of his writing. All his ideas were brought together in the book *Development of the Hip in Childhood*, which he wrote in retirement in 1981.

Somerville had studied scoliotic deformity of the spine even before he went to Oxford, and this was the subject of one of his most penetrating insights. His theory that it resulted from lordosis, which led to rotation, was ignored for nearly 40 years, but was resurrected in the 1980s, when methods of treatment based upon it were successfully applied.

His reputation as a teacher was international, and during the last 20 years of his professional life he traveled the world as a lecturer and visiting professor, to more than 30 countries. His real enthusiasm, however, was for those places where he could actually do something, rather than just talk about it. He played a leading part in organizing the first orthopedic service in the Sudan and visited Khartoum regularly to supervise it. In 1964, with assistance from Barbara Castle's Ministry of Overseas Development, he set up an orthopedic service and training program in Burma and visited Rangoon regularly, even after his retirement. At home, he was editorial secretary and then vice president of the British Orthopedic Association and was sometime president of the orthopedic section of the Royal Society of Medicine, the British Orthopedic Research Society and the ABC Orthopedic Club.

Edgar Somerville's recreations were pursued just as energetically and with no less success. He had university Blues for hockey and tennis and played golf to a handicap of six. In the 1960s he took up sailing and cruised the coasts from Copenhagen to southern Brittany.

The years of his retirement were busy with travel and golf, but his joy in sailing receded after the death of his wife Margaret in 1981. He is survived by his daughter and by his two grandsons, whose sporting efforts he applauded from the touch-line to within a few weeks of his death.

James Spencer SPEED

1890–1970

Born July 30, 1890, in Rapid City, South Dakota, Dr. Speed was the son of a banker. His family moved to Omaha, Nebraska, when he was a small child and soon thereafter returned to his parents'

original home in Roanoke, Virginia, where he spent his high-school days.

He was educated at the University of Virginia (AB 1912) and Johns Hopkins University (MD 1916). Following an internship at Jefferson Hospital in Roanoke, Virginia, and training at Union Protestant Infirmary (later Union Memorial Hospital) in Baltimore, Maryland, he served during World War I as a first lieutenant in the United States Army Medical Corps with Mobile Hospital Number 1 in France from 1917 to 1919. Returning to civilian life, he served a year of residency at the Hospital for Women in Baltimore, Maryland, and prepared to begin practicing in the South.

A trip to Memphis to find a partner was fruitless for Dr. Speed and he returned to Virginia for a short vacation before opening a private practice in general surgery and gynecology in Memphis. In Virginia, a telegram awaited him from Dr. Willis C. Campbell, Memphis orthopedic surgeon, who had been out of town when Dr. Speed had gone to see him. A subsequent 3-day meeting between the two doctors began an association in orthopedic surgery and a partnership that was unique in a day when young associates worked only a few years under an established physician before setting up their own practice.

For 42 years Dr. Speed practiced at the Campbell Clinic. On Dr. Campbell's death in 1941, Dr. Speed became chief of staff, not only of the Campbell Clinic (1941–1962) but also of the Crippled Children's Hospital and School and the Hospital for Crippled Adults. He was professor and head of the division of orthopedic surgery at the University of Tennessee College of Medicine (1941–1958), president of the Campbell Foundation (1946–1964), and a member of the advisory board of the National Shriners Hospitals for Crippled Children (1957–1964). He was on the active staff of the Baptist Memorial Hospital and a consultant at St. Joseph Hospital, Methodist Hospital, US Marine Hospital Number 12 (now US Public Health Service Hospital), Le Bonheur Children's Hospital, Kennedy Veterans Administration Hospital, and four railroads.

Dr. Speed was president of the Clinical Orthopedic Society in 1944 and of the American Orthopedic Association in 1950–1951. He served on the American Board of Orthopedic Surgery for 9 years. He was on the board of trustees of *The Journal of Bone and Joint Surgery* (1953–1963) and served as its chairman in 1959. He was chairman of the orthopedic section of the American Medical Association in 1934 and of the orthopedic section of the Southern Medical Association in 1929. He was a member of Alpha Omega Alpha and an honorary member of the British Orthopedic Association. He held membership in 20 medical societies, including the Southern Surgical Association, the American College of Surgeons, the American Academy of Orthopedic Surgeons, and the International Society for Orthopedic Surgery and Traumatology.

Dr. Speed's retirement in 1962 closed a long, full chapter of service and achievement in orthopedics. Although he resigned all administrative duties, he remained the senior consultant of the Campbell Clinic and was honored in 1965 as Tennessee Physician of the Year. At the annual meeting of the Memphis and Shelby County Medical Society in January 1969, he was awarded a certificate for 50 years of practice and a 50-year pin by the Tennessee Medical Association.

The records show that he has left a lasting impression on our discipline: a prolific writer, he had to his credit over 40 published papers, some of which are classics: "An Operation for Unreduced Dislocation of the Elbow" (1925), "Fracture of the Humeral Condyles in Children" (1933), his chairman's address to the orthopedic section of the American Medical Association, "Central Fractures of the Neck of the Femur" (1935), "Bone Syphilis" and "Operative Reconstruction of Malunited Fractures about the Ankle" (1936), "Malunited Colles' Fractures" (1945), "Surgical Treatment of Condylar Fractures of the Humerus" (1950), "Cartilaginous Tumors of Bone" and his presidential address to the American Orthopedic Association, "Federal Subsidization of Medical Education" (1954). He also coauthored two editions of *Campbell's Operative Orthopedics*.

His marriage in 1927 to Elizabeth Broaddus was an enviable merging of interests. Their enjoyment of gardening gave them great personal satisfaction and a means of sharing their bounties with friends. A love of the out-of-doors took them fishing and hunting, occasionally to distant places. From several trips abroad, they brought back remembrances, which added interest and personality to their home. Many orthopedists are among those who recall the hospitality of this couple who so truly personified the graciousness of the South.

Dr. Speed was the most mature person psychologically that I have ever known. Such maturity is an attribute coveted by many and attained by

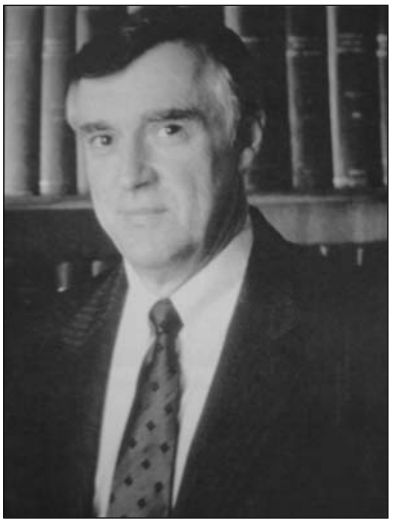
few. His superior judgment, shown by his ability to appreciate situations in their proper perspective, to allocate priorities, and to make sound decisions, was tempered with a rare, subtle sense of humor and dominated his professional and private life.

His surgical technique was superb: he handled tissue with a gentle kindness rarely seen in surgeons of his generation. After examining a patient, he frankly told him the advantages and disadvantages of the therapy to be used. Few patients were ever disappointed by Dr. Speed's treatment.

As a consultant, teacher, or counsellor he was at his best. His judgment was sought by many and his teaching appreciated by all. A well-known, mature orthopedic surgeon once said he had driven over 600 miles for a 15-minute discussion with Dr. Speed concerning a personal decision and that the advice he had received was more than worth the trip.

Dr. Speed is fondly remembered as "The Chief" by the more than 150 residents who have trained at the Campbell Clinic. In appreciation, the Willis C. Campbell Club composed of these orthopedists established a student loan fund in 1960, which bears his name.

All that he did, he did well, whether it was orthopedic surgery, teaching, fishing, hunting, gardening, golfing or farming. With the attributes Dr. Speed possessed, greatness was inevitable. He would have succeeded in any one of many fields: we in orthopedics are fortunate that he chose our specialty.



Richard N. STAUFFER

1938–1998

Dr. Richard N. Stauffer was chairman and director of the Department of Orthopedic Surgery at Johns Hopkins University School of Medicine.

Dick Stauffer was born in Kearney, Nebraska, in 1938 and was raised in Hastings, Nebraska. He received a bachelor's degree from Hastings College in 1959 and a medical degree from Northwestern University School of Medicine in Chicago in 1963. He completed an internship in surgery at Wesley Memorial Hospital in Chicago and a residency in orthopedic surgery at the Mayo Graduate School of Medicine in Rochester, Minnesota. From 1965 to 1967, in the middle of his residency, he served in the United States Navy.

Dr. Stauffer joined the faculty of the University of Iowa as an assistant professor of orthopedic surgery in 1970. Two years later, he began a 19-year tenure at the Mayo Medical School and Clinic, advancing from instructor of orthopedic surgery to full professor. From 1991 until the time of his death, Dr. Stauffer served as the Robert A. Robinson professor of orthopedic surgery at Johns Hopkins University School of Medicine and as orthopedic surgeon-in-chief at Johns Hopkins Hospital. He was a trustee of the hospital and served as chairman of its medical staff. He also served on many committees, including the Executive Committee for Surgery and the Reengineering Steering Committee, and he was instrumental in working with his colleagues to reorganize the governance of the Clinical Practice Association of the School of Medicine.

He was considered an international authority on the biomechanics of total joint replacement, joint motion and forces associated with walking, and the evaluation of patients who had had total joint replacement. His contributions to the clinical and research aspects of hip disease were recognized by his peers in the Hip Society who gave him the John Charnley Award for outstanding research in 1988.

In addition to his other honors, Dr. Stauffer was an American–British–Canadian Traveling Fellow in 1978. He remained very interested in international orthopedic affairs. He served on the board of the American Academy of Orthopedic Surgeons and on its Committee on Research from 1981 to 1987. He also served as president of the Orthopedic Research Society and on the Executive Committee of the American Orthopedic Association.

He served on the editorial boards of *Archives of Surgery* and the *Journal of Arthroplasty*, and he was editor-in-chief of the *Atlas of Orthopedic Surgical Exposure* and *Advances in Operative Orthopedics*. He also chaired an advisory panel to the United States Food and Drug Administration.

Dick was, first and foremost, a dedicated family man with a very close-knit family. He enjoyed nothing more than attending gatherings at the recently created family compound in Idaho, where he could do a little fishing with his sons. His interests were varied; he was an excellent wood-carver and painter. He was interested in classic automobiles and had recently begun taking lessons in classical guitar. He was truly a multifaceted man. He weighed his words carefully and made decisive decisions.

He died of pneumonia on February 27, 1998, at Johns Hopkins Hospital. He was 59 years old.

Paul B. STEELE

1891–1973

On March 29, 1973, Pittsburgh lost one of its outstanding orthopedic surgeons of the twentieth century, Paul B. Steele, at the age of 81. Paul had long been one of the leaders of the specialty, and at the retirement of Dr. David Silver in 1946 he became professor of orthopedic surgery at the University of Pittsburgh and chief of the orthopedic service at the Allegheny General Hospital.

Paul was born in Crenshaw, Pennsylvania, on September 4, 1891. His early education was in the Crenshaw schools. He went straight to medical college from the Dykeman Preparatory School. In 1915 he took his MD degree at the College of Physicians and Surgeons in Baltimore, which 1 year earlier had been taken over by the University of Maryland. He interned from 1915 to 1916 at the Allegheny General Hospital in Pittsburgh and then became the assistant of Dr. David Silver, with whom he was closely associated for over 30 years. A few months after World War I started, he enlisted, and was immediately sent overseas with the Second Orthopedic Unit headed by Dr. Joel E. Goldthwait, of Boston. The unit landed in England on October 17, 1917. Paul was ordered to the Edinburgh War Hospital for training in war surgery, and served under the great Sir Harold Stiles until June 1918, when he joined the American Army in France. Toward the end of June he arrived at Neufchâteau, where be became one of a surgical team that included Dr. Elliot Cutler and Dr. Carleton Metcalf. This team joined the Evacuation Hospital No. 7 at Château Thierry,

where they remained through one of the bloodiest battles of the war. The team then became attached to Mobile Hospitals No. 1 and No. 2. After the war ended, he served at a number of bases: Châteauroux, Brest, Perigoux, Bordeaux, and Beau Désert. When he returned home in July 1919, he worked first at Walter Reed Hospital in Washington and then at Ford McPherson in Atlanta, where he was in charge of the amputation section. In recognition of his outstanding war record, he was awarded the Army Silver Star. After his discharge on October 9, 1919, he returned to his former position with Dr. Silver in Pittsburgh. He was a member of the staff of the Allegheny General Hospital for over 50 years. When he retired he was given emeritus status at both the medical school, where he had taught for 47 years, and at the Allegheny General Hospital.

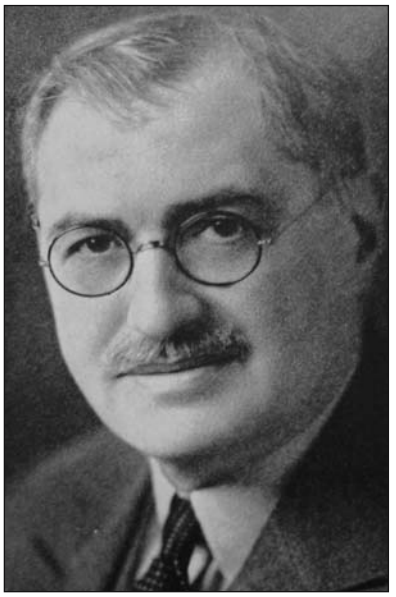
One of Paul's most significant contributions was to help Dr. Silver in the organization and operation of the D.T. Watson Home for Crippled Children at Leetsdale, outside Pittsburgh. This was opened in 1919 and soon became one of the outstanding crippled children's hospitals in the country. Paul was very active in the state crippled children's services and at different times held as many as 16 clinics; some of these started many years before the state program for crippled children was established. He was on the staffs of eight hospitals in Pittsburgh and at the Shriner's Hospital in Erie, Pennsylvania, in addition to the D.T. Watson Home.

Paul was vice president of the American Academy of Orthopedic Surgeons in 1941, having been a founding member in 1934. He was also the first president of the Pittsburgh Orthopedic Society, president of the Pittsburgh Academy of Medicine, and a member of the American Orthopedic Association (1941), the Société Internationale de Chirurgie Orthopédique et de Traumatologie (SICOT) (1948), the American College of Surgeons, and the Latin American Society of Orthopedic Surgery and Traumatology.

Paul had a great love for surgery and was always considered an excellent technician. He was best known for two operations: one, a barrel-stave graft for ununited fractures and bone cysts (1927); and the other, removal of the destroyed bone in the femoral head in coxa plana and packing of the cavity with bone chips (1928). The latter operation he performed for many years before it was reported in the literature. In his hands the results seemed to be better than those reported by others. This procedure was very popular for a while but was then given up. His many other original operations included: (1) an operation for detorsion and derotation in scoliosis (1926); (2) a procedure to reconstruct the cartilaginous head in an ununited fracture of the femoral neck (1929); (3) a graft between the first and second cervical vertebrae for ununited fractures of the odontoid process (1928); (4) a rotation operation for ununited fractures of the carpal scaphoid (1934); (5) an operation for congenital dislocation of the patella (1930); and (6) wiring for fractures of the patella without entering the joint (1938). Unfortunately, Paul left few publications and also very few end-result studies. In a document he prepared after his retirement, he listed his many original operations and stated that all of the ununited scaphoids he operated on had united and that his operation for congenital dislocation of the patella had never failed. He also had his own procedures for treating subacromial bursitis by aspiration with a large needle, for ulnar-nerve suture, and for acute suppurative arthritis and gonorrheal arthritis. He wrote the chapter on "Fractures of the Pelvis, Sacrum and Coccyx" in Bancroft and Murray's *Surgical Treatment of the Motor-Skeletal System* (1945).

Paul was a good, clear speaker and a good teacher. He was an excellent golfer, an avid hunter and fisherman, and a good marksman. He was a delightful story teller and had a host of stories, which included many of his personal experiences.

In 1923, Paul married Anne Laurel McNeill, who had been an army nurse in World War I, serving at one time in Evacuation Hospital No. 17 in Vladivostok, Russia. They were devoted partners and had two sons, Paul Jr. and David, and six grandchildren. Both Paul and David became orthopedic surgeons, and were associated with their father in practice before he retired to Fort Lauderdale, Florida.



Arthur STEINDLER

1878–1959

Arthur Steindler was born in Graslitz, a town north west of Prague, on June 22, 1878. In his early youth his family moved to Vienna, where he pursued his undergraduate and graduate studies. He was graduated from the medical school of the University of Vienna in 1902, and for the following 5 years took postgraduate work in orthopedics with Edward Albert, Adolph Lorenz, and Freelander. In 1907, he came to the United States and, until 1910, practiced orthopedic surgery in Chicago, where he worked also at the Home for Crippled Children and was associated with John Ridlon. In 1910, he moved to Des Moines, Iowa, and became professor of orthopedic surgery at Drake Medical School. In 1914, he married Louise Junk, whom he had met in Chicago while she was working as a registered nurse at the Home for Crippled Children. In that same year Steindler became an American citizen. In 1915, he went to Iowa City to develop the Department of Orthopedic Surgery of the State University of Iowa. Within a growing university in this small midwestern town, he found a congenial intellectual atmosphere and there spent the rest of his very productive life. He served as professor and head of the Department of Orthopedic Surgery of the State University of Iowa for 34 years. From 1949 until the time of his death (1959), he was distinguished service professor emeritus of the university and chief of the orthopedic service at Mercy Hospital in Iowa City.

Steindler's interest spanned the whole field of orthopedic surgery, and he wrote important essays on almost all aspects of the specialty. He adhered to sound biologic principles; he discouraged fads but was always on the lookout for new ideas. With his knowledge of Latin and of most of the western European languages, together with his enormous capacity for work, he acquired a vast medical culture. His medical articles and books comprise a large bibliography.

Steindler was honored by many of the medical and surgical societies of North and South America and of Europe. Among these honors he prized very highly the presidency of the American Orthopedic Association in 1933 and his election as honorary fellow of the Royal College of Surgeons and honorary member of the Royal Society of Medicine in 1954.

Steindler made excellent use of the facilities that he developed in Iowa City. An enlightened state legislature pioneered in the field of a complete public program for the crippled indigent. As the population of the State of Iowa is fairly stable, follow-up of cases and end-result studies of new surgical procedures were possible. In all his publications one encounters a rare combination of a well-grounded knowledge of basic principles, sound surgical inventiveness and a careful evaluation of long-term results.

His first publication in 1909 dealt with the treatment of scoliosis. He proposed the use of the hip joint and the motion of the leg for the correction of deformities of the body by attaching a thigh piece to the pelvic belt of a body brace. The thigh piece was connected by a hinge with the brace and braced the leg by means of a padded ring above the knee. In this article we can already see one of Steindler's main ideas in the treatment of scoliosis, which he improved greatly later on; that is, the development of a counter curve in the lumbar spine to improve the body alignment in a child with thoracic scoliosis.

In 1917, he described his stripping operation for the treatment of pes cavus. In his forthright fashion, he recommended this operation "because it remedied the trouble to the extent to which the contracture of the plantar fascia and the superficial layer of the musculature of the sole are responsible." Steindler studied the architecture of the foot exhaustively. In *The Treatment of Pes Cavus* (1921), he analyzed the muscle imbalance that produced claw foot and advocated the

correction of the severe skeletal deformity by cuneiform osteotomy of the dorsum of the foot as a complementary procedure to the plantar stripping operation. In a paper in 1928, he drew on his vast experience of this operation, which almost always was to be combined with some stabilizing operation for restoration of balance. The deformity, he stated, invariably would recur unless proper measures were taken to restore the balance of the foot. In 1923, there appeared his paper entitled *The Treatment of the Flail Ankle by Means of Panastragaloid Arthrodesis*.

The histologic study of the muscles of five cases with Volkmann's contracture of the forearm and the hand was published in 1917. The musculature lesion of Volkmann's contracture was clearly differentiated from the lesion seen in paralysis following poliomyelitis or peripheral nerve lesions; in Volkmann's contracture there is interstitial myositis with secondary degenerative changes of the muscle fibers.

Steindler was particularly interested in reconstructive surgery of the upper extremity. He published many monographs on different reconstructive operations. In a paper that appeared in 1918 in the *New York Medical Journal*, scarcely a page was devoted to the "forearm plasty of the elbow." This operation was to be one of his best-known contributions to orthopedic surgery.

From 1915 to the early 1920s, Steindler developed a department of occupational therapy in Iowa City. He was one of the pioneers in this field, and his systematization of exercises and muscle re-education for the upper extremity is of great interest. In his scholarly book, *Reconstructive Surgery of the Upper Extremity*, published in 1923, the functional anatomy of the shoulder, the elbow, the wrist and the fingers was studied carefully. This was an important reference book for the great development of upper extremity surgery in the 1930s and the 1940s. Most of his operative indications for the paralytic arm have stood the test of time. He studied the substitutionary motion of the shoulder in cases of complete paralysis of the deltoid muscle, observing that deltoid paralysis was hardly ever strictly isolated. In cases of permanent inability of abduction and failure to replace the deltoid action by substitutionary motion to a degree of satisfaction, he stated that the only method that might be relied upon to give permanent results was the arthrodesis of the shoulder joint. For the flail elbow he advocated his operation of proximal transposition of flexors of the wrist and the fingers. For the paralytic hand, he advised tendon transplants about the wrist if muscles of sufficient strength were available. Failing this, he recommended fusion of the wrist. In cases of thenar paralysis, he favored his opponens plasty, which later was replaced by the more efficient method of Bunnell.

Steindler's book, *Operative Orthopedics*, published in 1925, was a compilation of the operative procedures in vogue at that time. Most of these procedures were tested by Steindler and his coworkers in Iowa City, and statistics on the clinical results follow the description of the operation. A new book, *Orthopedic Operations*, was published in 1940. The third part of the book dealt with operative indications and furnished much thoughtful information. The systematization of the surgical indications in orthopedic conditions is of invaluable service to the orthopedic surgeon.

In 1926, his first paper on the treatment of scoliosis by the "compensation method" was published. His aim was to attain a satisfactory degree of body symmetry and of proper redistribution of weight by helping in the development of compensatory curves of proper extent and degree. This was to be accomplished without causing relaxation of the spinal ligaments.

> Compensation of the scoliosis is a necessary prerequisite for maintenance of correction and posture and if compensation can be accomplished, and provided muscle development is adequate, the spine need not be fused. Those spines in which subsequent stabilization by operative means will be necessary are by virtue of this realignment by compensation without relaxation in better position to hold after operation than spines operated upon in a state of decompensation.

He never wavered from these ideas, although occasionally, in front of a rapidly progressive case of idiopathic scoliosis, he would comment sadly on our great ignorance of the nature of this deformity. The book, *Diseases and Deformities of the Spine and Thorax*, published in 1929, is an excellent compilation of knowledge on the subjects from all available sources. In every one of the chapters there is a thorough discussion of the embryology, anatomy, pathomechanics and biology before the handling of the clinical description and the treatment.

Starting in the mid-1920s, kinesiology was to be Steindler's main interest. He studied the kinetic problems of the shoulder joint, the flail elbow, the pronation contracture of the forearm, and the wrist joint. In 1928 he published the kinet-

ics of the "pillroller" hand deformities due to imbalance of the intrinsic muscles of the hand and advocated the severance of the motor branch of the ulnar nerve at the hand. What later was to be called the "intrinsic plus" type of deformity of the fingers by Bunnell is well described in this paper. In a paper in 1932, Steindler made a scholarly analysis from a biophysical point of view of the mechanics of musculature contractures in wrist and fingers. He devoted much time to the study of biophysics of locomotion. His book, *The Mechanics of Normal and Pathological Locomotion of Man*, was published in 1935 and brought into the English literature, in a concise manner, the great amount of work done on the physiology of motion by European scientists in the eighteenth and nineteenth centuries. Duchenne, Braune and Fischer, Fick, Strasser, the Weber brothers, Roux, von Meyer, Wolff, Sherrington and others were studied carefully by Steindler, who drew heavily from their works for his book. In *Kinesiology of the Human Body*, published in 1955, he reduced the mathematic calculations of his earlier book to a minimum and incorporated the modern works of Pauwel, Hirsch, Saunders, Inman, Slocum, Evans and many others.

In 1938 Steindler and Luck published an article entitled "Differential Diagnosis of Pain Low in the Back." In this paper, and in subsequent ones, Steindler tried to differentiate the sciatic radiation caused by root compression of a herniated intervertebral disk or an intraspinal cord tumor from the radiating pain observed in myofascial trauma of the back. In this last instance, Steindler drew attention to the presence of the "trigger point" in the back and pointed out that local anesthesia at this point would abolish temporarily the local pain and also the sciatic radiation. He believed that the "procaine test" was an additional valuable test in the differentiation of referred from reflex sciatica.

The treatment of infantile paralysis in the light of new knowledge gained in the 1940s on the pathology and the muscle physiology of this disease occupied Steindler's attention, and he contributed some important papers on the subject.

A great amount of information is found in his book *Traumatic Deformities and Disabilities of the Upper Extremity*, published with the collaboration of Marxer in 1946. In it he drew on his large experience of orthopedic surgery of the upper extremity.

In the late 1940s, Steindler worked hard to compile in book form his lectures delivered to graduate students for 30 years. The four volumes, under the title *Post-Graduate Lectures in Orthopedic Diagnosis and Indications*, appeared from 1950 to 1952. The volumes were intended to be about twice their actual size, but, at the insistence of the publisher, they had to be condensed. They represent an important résumé of the Steindler teachings. In these books—as in his lectures—he aimed "to build up in the student a sound rationale for the management and treatment of orthopedic disorders."

During the last years of his life, Steindler worked tirelessly to prepare his *Lectures on the Interpretation of Pain in Orthopedic Practice*. This book was published after his death; he finished the correction of the proofs only a few days before he died. Again, an enormous amount of information is gathered in this last book, systematized in different chapters and under different subheadings, so typical of his orderly classification of the subjects.

Spaced among the papers of his more constant interest were a large number of presentations that encompassed most of the orthopedic subjects. Steindler made good use of his inexhaustible energy. He enjoyed particularly teaching his postgraduate students. He gave at least one lecture a day, and this he prepared with great care at home the preceding evening. He read constantly, always making careful notes, which he used in his lectures. He read all the orthopedic publications of the western world and also read extensively in anatomy and physiology. He had an excellent memory and quoted extensively from the world literature.

Steindler was a hard worker, and he demanded from his staff not only the careful execution of the clinical work, but a dedication to reading and research. He compiled and distributed generously his seminar notes with extensive abstracts of current literature, reports of meetings, seminars, and statistical and research material. Although every member of the staff wrote for the seminar notes, Steindler did most of the work. Through his kindness and compassion and great personal responsibility, he succeeded always in developing a close relationship with his patients. He trained over 300 orthopedic surgeons—each one of them devoted to the "Chief." He cherished them and remained loyal to them.

Fritz STEINMANN

1872–1932

Fritz Steinmann of Bern, Switzerland, described a new method for the reduction and the treatment of fractures by the use of a specially designed nail to be inserted through a distal fragment and to be controlled by direct skeletal traction. This was published in 1907 when the fear of introducing infection into bone was a matter of nightmare concern to all surgeons. Its rapid acceptance in spite of the fears the method engendered is a tribute to that decade of surgeons. The Steinmann pin was one of the half dozen important contributions to fracture therapy in over 2,000 years of its practice.

James H. STEVENS

1871–1932

James H. Stevens was raised in Rochester, New Hampshire and graduated from Dartmouth College. He attended the New York Homeopathic Medical College, from which he received his medical degree in 1893. Like many idealistic young physicians, he sought adventure and the opportunity to make a political statement. He did this by serving 3 years (1895–1898) on the staff of General Maximo Gomez y Baez (El Chino), one of the leaders of the revolution against the Spanish rule in Cuba. After returning from Cuba, Stevens practiced surgery in and around Boston until his death from coronary thrombosis. From what little I can glean, he must have been a talented eccentric whose ideas were somewhat out of the mainstream of medical practice. His published papers on fractures of the ankle[2] and dislocation of the shoulder[3] lean toward a mechanical explanation of the phenomena observed.

It was a surprise to find an important contribution on brachial plexus injuries hidden in Ernest A. Codman's book, *The Shoulder*.[1] Chapter XI, entitled "Brachial Plexus Injuries," occupies pages 332–381 and is accompanied by an extensive bibliography of the literature on the subject. Stevens prepared the initial manuscript on the basis of more than 100 dissections of the brachial plexus, which he carried out at Tufts and the Harvard Medical Schools. The traction theory was explained in the section that Codman entitled "Dr. Stevens' Theory of Mechanism of Production of Brachial Plexus Injuries." Although cases of brachial plexus injury due to traction had been reported by Flaubert (1827) and Malgaigne (1847) and the traction theory of injury had been advanced by Gerdy and Horsely, Stevens was the first to analyze carefully the mechanical vectors created by the anatomy and to estimate the actual forces involved.

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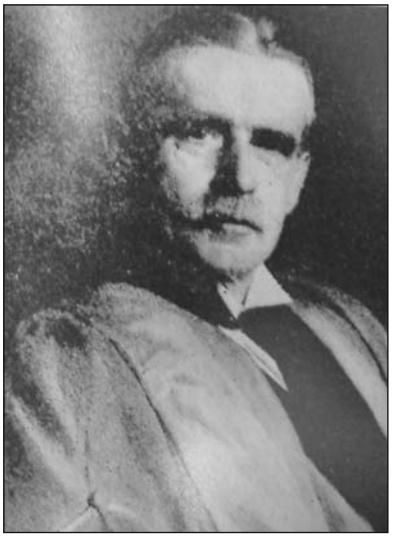
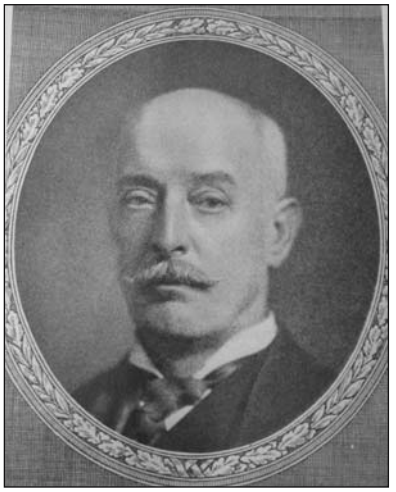


George Frederic STILL

1868–1941

George Frederic Still was born in a working-class suburb of London, of Cornish stock. He was educated at Cambridge, where he took a first in the classics. After his medical training at Guy's Hospital, he became a house physician at the Hospital for Sick Children, Great Ormond Street. He remained on the staff of this hospital for over 30 years. Still was the first physician in England

to confine his practice to the diagnosis and treatment of diseases of children, and thus he may be considered to be the founder of the specialty of pediatrics in that country. A small, thin, wiry man, Still cultivated some eccentricities and remained a bachelor, devoted to his mother. It was while he was only a registrar that he published his article, "On a Form of Chronic Joint Disease in Children." Later in his career he had an extensive practice that included the children of the British royal family.



Lewis Atterbury STIMSON

1844–1917

Lewis Atterbury Stimson was born in Paterson, New Jersey. His family was of old colonial stock, and his father was a successful stockbroker who counted Jay Gould and Jim Fisk among his acquaintances. Stimson graduated from Yale in 1863, just in time to see active service in the final period of the Civil War. After the war, he married and went to work as a broker on Wall Street. In the next few years, he became interested in the study of medicine, perhaps because of the chronic illness of his wife, who had become diabetic. In 1871, he took his family to Paris to seek help for his wife and to begin his medical education. At this time, he studied with Pasteur, Nelaton, Gosselin, and others. Returning to the United States, he obtained his medical degree from Bellevue Hospital Medical College in 1875. At graduation he was awarded the Wood Prize of the Alumni Association of Bellevue Hospital Medical College for an essay entitled "Bacteria and Their Influence Upon the Origin and Development of Septic Complications of Wounds." The following year he performed the first public operation in the United States using Lister's antiseptic technique. He was an important influence on the introduction of antiseptic and aseptic technique into operating theaters in the United States.

After the death of his beloved wife in 1876, his work became his life. He made significant contributions to the technique of abdominal surgery, popularized the use of plaster of Paris splints for the treatment of fractures, and described a method for the reduction of posterior dislocations of the hip. His book on fractures and dislocations, first published in 1883, was preceded by a translation of a series of lectures, mostly on fractures, given by Gosselin at *La Charite*.

Stimson was an important and influential figure in the New York surgical community, and he had a significant role in the development of the Cornell University Medical College. His son, Henry L. Stimson, held positions in the cabinets of Presidents Taft, Hoover, and Franklin Roosevelt.

Frank STINCHFIELD

1910–1992

Dr. Stinchfield had made the most outstanding contributions to the unique 125-year history of the New York Orthopedic Hospital. He combined the qualities of a superb clinician who developed

numerous advanced techniques, particularly in the treatment of the spine and the hip, with a gift for leadership that transformed not only New York Orthopedic Hospital, but also the practice of orthopedic surgery, both nationally and internationally.

Dr. Stinchfield was one of two sons of Charles and Mary-Frank Stinchfield, and was born on August 12, 1910 in Warren, Minnesota. His father managed a grain elevator company and there was no history or succession of physicians in his family, but by the age of 12 Dr. Stinchfield knew that he wanted to become an orthopedic surgeon. Like most young boys, he enjoyed playing sports and was fortunate to have never suffered any serious injuries. Playing sports helped develop his fascination with bones, and he became committed to the idea of healing, researching, and exploring bones in a medical and scientific capacity. This early commitment not only sent him to medical school, but also won him the support of doctors, who saw his talent and were happy to make funding for his education possible (he gratefully paid back his benefactors in full less than 1 year after he began working as a full-time orthopedic surgeon).

He received a BS in Medicine in 1932 from the University of North Dakota after transferring from Carleton College, and received his MD in 1934 from Northwestern Medical School in Chicago. He remained in Chicago, and began his internship, and later residency, at the Wesley Memorial and Passavant Memorial Hospitals. He spent some time at the Campbell and Mayo clinics and even briefly worked with the illustrious Mayo brothers.

In an effort to explore beyond the Midwest, and train under renowned East Coast orthopedic surgeons, Dr. Stinchfield traveled to New York in 1936 and did 1 year of residency on the fracture services at the Columbia Presbyterian Hospital. Little did he know that he was to devote over 31 years of outstanding service to that institution. He impressed his instructors and the senior attendings as being bright, talented, and amiable, but grossly underexposed. He was chosen for a traveling fellowship throughout various clinics around the United States and Europe. This was the beginning of his exposure and insight into other orthopedic surgical techniques and methodology, as well as other cultures. While in Europe, he trained under Sir Reginald Watson Jones, Sir Harry Platt, Dr. Lorenz Böhler, and Dr. Vittorio Putti in hip, shoulder and replacement surgical techniques. The year abroad turned out to be one of the most exciting and educational periods of his life, as it coincided with the outbreak of World War II. Dr. Stinchfield recalled having his American identity concealed by his hosting doctors on more than one occasion in order to avoid potential problems throughout his European travels.

Despite the danger seen during his travels, Dr. Stinchfield felt compelled to join the Allied Forces in Europe, and between 1942 and 1946 his medical services were enlisted to the army of the United States. This second excursion to Europe was both stimulating and horrific as he witnessed some of the worst wounds seen in his medical career. Many of the bloodiest casualties were seen while he was running the American Army Field Hospital in Oxford, Britain. He was promptly promoted from second lieutenant to colonel and commanded the 826th Group Hospital and the 307th Station Hospital in the European Theater of Operation. As one of two physicians tending medical needs during the liberation of Buchenwald, he was asked to be the orthopedic consultant in the Surgeon-General Headquarters to the Allied Forces in Europe. By 1946, he had been decorated with a Legion of Merit, First Bronze Star, European Theater Operation Unit Citation, and Second Bronze Star. During Dr. Stinchfield's army service, his wife, Margaret Taylor Stinchfield (whom he wed in 1939), supported the Allied Forces as a liaison to the British lend-lease program.

Dr. Stinchfield's active military service ended in 1946, and he returned to the United States, where he began his attendance and associate professorship at New York Orthopedic Hospital. Ten years later, he was promoted to professor and chairman of the Department of Orthopedic Surgery and director of the hospital. He was elected president of the American Academy of Orthopedics in 1963 and the American Board of Orthopedic Surgery in 1964. In 1968, he presented Sir John Charnley's hip replacement technique to the hospital, thereby establishing it as one of the few American hospitals to offer such an operation to patients. This dedication to research of the hip helped motivate his founding of the Hip Society, USA in 1969, where he served as president until 1972, when he was elected president of the Presbyterian Medical Board. He later founded the International Hip Society in 1975, where he also served as president.

Dr. Stinchfield was awarded Honorary Fellow by the Royal Australian College of Surgeons in 1976, and Honorary Fellow by the Royal College of Surgeons in 1979. In 1977, he became president of the American College of Surgeons. He served as liaison between the orthopedic community and Congress while serving as orthopedic adviser to presidents such as Harry Truman. By the 1980s he was on the Presidential Advisory Committee on National Health to President Ronald Reagan.

Almost 100 articles by Dr. Stinchfield, primarily on hip replacement and arthroplasty, were published by the time he retired. His teachings not only set new and higher standards in orthopedics, but he was also instrumental in the ultimate development of some of the world's finest surgeons and leaders in the field of orthopedics. At least seven of his students are known to hold chairman positions at major hospitals and universities in departments of orthopedics.

At the age of 82, Dr. Stinchfield died on December 1, 1992 after experiencing cardiovascular difficulties. Appropriately enough, he passed away at the Columbia–Presbyterian Medical Center, where he had served as the distinguished chairman of the Department of Orthopedics and director of the New York Orthopedic Hospital for 20 years (1956–1976).

Dr. Frank Stinchfield's memory is immortalized in his contributions to orthopedics and medicine. He continued to remain active in his field and life until stricken with illness in 1989. The orthopedic community owes much of its information and advancements to his commitment and talent. His family, students, and patients owe much of their hope, passion, knowledge, and best times to his warmth and kindness.

Robert Ingleton STIRLING

1896–1970

Born to the manse in Edinburgh on July 15, 1896, Robert Ingleton Stirling, "R.I." to so many, learned early the ideals that ruled his life.

His entry into medicine was delayed by the First World War. He was commissioned into the Machine Gun Corps and commanded and fought with an independent unit. He remained interested in the care of wounded ex-servicemen, and during the Second World War was orthopedic surgeon to Scottish Command.

He graduated in 1924. He gained a Blue for hockey and was always interested in sport. Woe betide his house surgeon if he could not immediately give him on arrival at a hospital the latest score in the current Test series. He excelled at golf and each year represented the Scottish colleges. He was a man of the mountains and the outdoors, and the Cuillin of Skye was his haven for many years, but he loved all Scotland. Traveling with him anywhere in Britain, but particularly in Scotland, was fascinating, for one was regaled with endless tales and legends of the country traveled through. He was an immensely cultured man. He used to read far into the night and the diversity and extent of his reading was extraordinary. He could talk well on almost any subject.

His bent was surgery and he became a clinical tutor to W.J. Stuart at the Royal Infirmary in Edinburgh. Stuart was a gentle, quiet and compassionate surgeon. The two men were in many ways similar and Stirling acquired an admiration and devotion for his chief. In 1929 he was awarded a

Traveling Fellowship of the English College of Surgeons, which allowed him to visit the United States, Canada and Europe. This confirmed for him his decision to specialize in orthopedics, not easy in Edinburgh at that time when specialization (in surgery) was regarded as unnecessary or worse. During his travels in the United States, he met many orthopedic surgeons and developed a special and long-lasting friendship with Steindler and Hoke.

Back in Edinburgh, he was appointed an assistant surgeon to the Royal Hospital for Sick Children and began an association with W.A. Cochrane, the first orthopedic surgeon in Edinburgh. Cochrane had an immense enthusiasm for the care of the crippled child. He had already started peripheral clinics, and plans for what was to become the Princess Margaret Rose Orthopaedic Hospital were already on the drawing board. The concept conceived by Robert Jones and developed at Oswestry was to be brought north. The orthopedic hospital is on the edge of the city, surrounded by trees, facing south over the Pentland Hills, and is perhaps the loveliest site of any orthopedic hospital in Britain. It has now grown to nearly 300 beds. It was the great love of Stirling's life. Though he had done so much to create it and though he worked in it throughout his professional career, when the time came for younger men to come to his hospital, he was open to discussion and gentle argument; and though a traditionalist and conservative to the depths of his nature, he was prepared to see radical changes in his hospital and in his concept of orthopedics, if one could argue to his satisfaction that it was necessary. The esteem in which he was held by his colleagues was reflected in his election as vice president of the British Orthopedic Association in 1961.

The clinic system from which crippled children would be supervised was developed over southeast Scotland. Cochrane, Stirling and their colleagues tirelessly traveled over the many counties brought into their ambit. At one time, 95 clinics were in being in southern Scotland. With the disappearance of tuberculosis, poliomyelitis, rickets and many other crippling diseases of children and the shortening of hospital stay, the function of the Princess Margaret Rose Orthopedic Hospital had to change. It is a tribute to the planners that this hospital, the last but perhaps the best designed of the long-stay orthopedic hospitals, was found to lend itself to adaptation in a quite remarkable way.

One of Stirling's earliest appointments was that of surgeon in charge of accident services in Fife, north across the Firth of Forth from Edinburgh. Unique in his contract was the proviso that if the ferry to Fife was unable to sail because of storm or darkness, he was permitted to cross the Forth railway bridge on foot. To his dismay, the occasion was never to come. For the sick, his time and patience were endless. He was never seen to be hurried or irritated. No one was ever turned away from his clinics; in consequence these were very prolonged. The last ferry from Fife to Edinburgh at 11 p.m. was repeatedly held up to wait to take him back to Edinburgh: on three occasions it even returned to the quay when his well known car appeared in view.

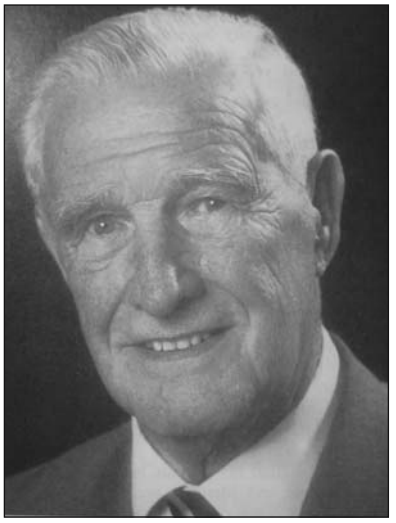
The essence of "R.I." was happiness. He had the capacity for a great, continuing but quiet happiness. He was humorous, a marvelous raconteur. Some of his happiest times were spent with the Monks of St. Giles, an Edinburgh society that dines in monks' habit on beer and sausages, regaling each other with tales and humorous verse. He was in all ways a gentle man, aware of the human dignity of his patients, even the most fractious or the poorest. He understood human dignity in its proper sense; he had so much of it himself.

To watch Stirling with children was entrancing. He had a special magic with children, a rapport tantalizing to try and understand, impossible to emulate. In his early years he wrote a book of fairy stories.

Shortly after his retirement, and to the great delight of his friends, he married. In Wyn he found a completion to his life, a fulfilment of his happiness. He had seemed a confirmed bachelor; in reality he was an idealist who was prepared to wait. Those of us who have been privileged to know both of them together know that he, always a happy man, was now wholly content.

Soon after this happiness, tragedy struck and he had to lose a leg at the hip. Having all his life persuaded the crippled that disablement was not a disability, as one might expect, he learned to walk on a Canadian limb without fuss. He became a nimble septuagenarian, drove his car, became an enthusiastic gardener and attended public dinners. His patients loved him because he so obviously cared, his friends and colleagues are grateful to have known him.

He died in Edinburgh on October 29, 1970, aged 74.



Frederick Griffiths St. Clair STRANGE

1911–2002

Frederick Griffiths St. Clair Strange was born on July 22, 1911, in Moh Kan San, near Shanghai, to Dr. Charles Frederick Strange, of the Church Missionary Society, and Olive Cecilia Strange (née Harrison). He was educated at Rugby School and the London Hospital Medical College. He qualified in 1934, and gained the FRCS in 1939. After a number of junior hospital posts, he spent the years of World War II as senior surgeon at Dunston Hill Hospital, near Newcastle, where he had sole charge of 200 beds for wounded service personnel.

He was appointed to the Kent and Canterbury and Ramsgate Hospitals as an honorary consultant in 1947, a year before the beginning of the National Health Service. At this time, fractures were managed by general surgeons and orthopedic clinics were organized by county councils or large orthopedic hospitals. Strange realized the need for a long-stay hospital for orthopedic patients in East Kent and established an orthopedic unit at the Royal Sea Bathing Hospital in Margate, which was then being used for the management of patients with tuberculosis. With the success of the treatment of this disease by drugs, the number of beds available for orthopedic surgery increased, and the unit thrived until its eventual closure in the 1980s. Strange also realized the need for a centralized accident unit and advised it be sited at Canterbury. He was only partially successful in this and remained a life-long critic of the fragmentation of the care of trauma.

Derick Strange was an articulate and enthusiastic teacher, an original thinker rather than a regurgitator of the views of others. His initiative resulted in the beginning of postgraduate teaching at the Kent and Canterbury Hospital and the eventual opening of the Kent Postgraduate Medical Centre.

His most important contribution to the development of orthopedic surgery was probably the publication, in 1965, of his monograph entitled *The Hip*. It ran to only 284 pages, but Norman Capener, in his review of it in *The Journal of Bone and Joint Surgery*, said that "in a special way, this book . . . can be described as a work of art." A special feature was the line diagrams with which it was illustrated, which are an example of Strange's ability to convey complex ideas simply by his own drawings. He was a member of the original group of ABC Traveling Fellows, and, at 86 years of age, published *The History of the ABC Club of Traveling Fellows*. Each year's group, and each meeting of the club, is described. This book will surely be a valued possession of every member, and is a very good "read" for any orthopedic surgeon in the English-speaking world, if only for the insight it gives into the earlier exploits of some of the present-day leaders of the profession.

Strange won the Robert Jones Gold Medal and Association Prize for his essay on amputations in 1943, and was a Hunterian Professor in 1948. He was a member of the editorial board of *The Journal of Bone and Joint Surgery* from 1964 to 1968. He has been president of the orthopedic section of the Royal Society of Medicine, and vice president of the British Orthopedic Association. At the time of his death, he was one of only four surgeons who were honorary fellows of the British Orthopedic Association and who were British by birth.

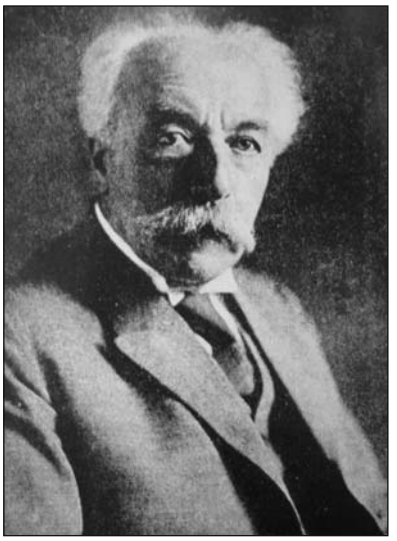
For nearly 30 years, he was honorary surgeon to the Kent County Cricket Club, and served as honorary civilian consultant to the army from 1967 to 1976. His East Kent colleagues inaugurated an annual FG St. Clair Strange Lecture in 1988. He died during the night preceding the 2002 lecture.

Strange was a competent pianist, a painter in oils and watercolours, a poet, an observer of people, a raconteur and a deeply valued friend.

Georg Friedrich Louis STROMEYER

1804–1876

Georg Friedrich Louis Stromeyer of Hanover, at times professor at various German universities and surgeon general of the Hanoverian army, was one of the most powerful influences in developing the surgical aspects of orthopedic surgery in the mid-nineteenth century. His outstanding contribution was the popularizing of subcutaneous tenotomy and the encouragement of its practice throughout the western surgical world. Although in the preface to his masterful and influential book, he gives credit to his predecessors who attempted the procedure sporadically, Stromeyer applied it to deformities wherever contracted tendons were approachable by the method. To appreciate the importance of subcutaneous tenotomy, the horrendous proportion and devastating effects of open surgery in pre-Listerian days must be kept in mind. As becomes obvious in this preface, the technic of Stromeyer's procedure was used as a wedge for the development of musculoskeletal surgery *vis-a-vis* the brace and stretching era of the early days of our specialty. His first paper on the subject was published in 1833; however, the classic of Stromeyer was his book on *Operative Orthopedics*.



Ernest Adolph Gustav Gottfried STRÜMPELL

1853–1925

Ernest Adolph Gustav Gottfried Strümpell of Leipzig published a two-volume edition of the *Lehrbuch der Speciellen Pathology and Therapie der inneren Krankheiten* in 1883–1884. He was among the leading internists and pathologists of his generation. The masterpiece went through more than 30 editions, translated into several languages, with the first in English appearing in 1887. The volumes are still valid references in pathology with a wealth of forgotten and rediscovered musculoskeletal material pertinent to contemporary studies. His name is eponymic with spondylitic syndrome.

James SYME

1799–1870

James Syme was born in Edinburgh in November 1799, the son of well-to-do parents. During his school days he was fascinated with the subject of chemistry. In 1818 he described in *The Annals of Philosophy* a new solvent for India rubber derived from coal tar. This process was patented by a Glasgow manufacturer named Macintosh, and had Syme followed the advice of his friends, our rainproof garments today might be referred to as "Symes" and not "Macintoshes." Syme was probably induced to study medicine by the brilliant Robert Liston, with whom he worked as an assistant and demonstrator in anatomy. After a quarrel with Liston in 1824, Syme began lecturing on his own in surgery and anatomy. In 1833 he was appointed to the chair of clinical surgery at the University of Edinburgh and was given an appointment on the staff of the Royal Infirmary. In 1853 Joseph Lister migrated from London to Edinburgh and established a warm relationship with James Syme. By his marriage with Agnus, Syme's eldest daughter, Lister became the son-in-law of the distinguished professor and acted as his assistant and substitute on many occasions.

Syme introduced conservative alternatives to major amputations and is best remembered for his contribution of ankle disarticulation with preservation of the heel pad as an alternative to below-knee amputation. Since cartilage is more resistant to infection, the postoperative healing with this new operation, reported by Syme in 1844, was much better than with other traditional types of amputation. Even within his lifetime, the Syme amputation was recognized as a major technical advance. In 1868, a book written by D.E.D. Hudson, *The Mechanical Surgery*, described the Syme amputation as follows: "No amputation of the inferior extremity can ever compare in its value to the subject with that of the ankle joint originated by Mr. Syme."

Syme recognized the tremendous contribution of his son-in-law, Lister, to the practice of surgery, and in 1868 a paper was published by Syme in the *British Medical Journal* entitled "On the Antiseptic Method of Treatment in Surgery." Another article by Syme in April of 1868 states, "As the most important subject of our attention, I may first mention the antiseptic treatment, which, if it had not already done so, is certainly destined in no small degree to revolutionize the practice of surgery." Honors were showered on Syme from all parts of Europe.

In 1868, Syme suffered a stroke that involved his left side. That same year he resigned the chair at the University of Edinburgh, to which he had brought such prestige. He died in June 1870. He was buried in the family vault at St. John's Episcopal Church in Edinburgh. In the *Scotsman* newspaper of June 20, 1870, there is a resume of Mr. Syme's character and achievements as a surgeon. It is believed to be from the pen of Joseph Lister: "The most prominent feature of Mr. Syme's character was uncompromising truthfulness; and with the love of what was true and noble was combined in a corresponding measure, the detestation of what he believed to be counterfeit and base."

Hugh Owen THOMAS

1834–1891

Hugh Owen Thomas was born at Bodedern, Anglesey, on August 23, 1834. He was descended from a well-known family of bonesetters, who for three generations had practiced their art in North Wales. They derived from Evan Thomas of Maes, of Spanish descent, who died in 1814 at the age of 79 years. A tablet to his memory was placed in Llanfairynghornwy Church, Anglesey, by Viscount Bulkeley, in which tribute was paid to the esteem in which he was held as a great bonesetter. Evan Thomas, the father of Hugh Owen Thomas, left Wales and settled in Liverpool at 72 Great Crosshall Street. He acquired an extensive practice in the treatment of fractures and bone and joint diseases. He held conservative views and differed from other bonesetters in that he never attempted to manipulate joints except to reduce dislocations by slow traction. In the setting of fractures he used a pulley, and insisted that a broken bone should have its proper length restored and the fragments brought into good alignment. Well-padded wooden splints were used for protection. Long continued rest was the principle he adopted in the treatment of chronic joint disease and in this way many a limb escaped amputation.

His success, however, was not altogether congenial to qualified practitioners and, notwithstanding that the treatment of fractures was a fertile field for failure, no matter who engaged in it and no matter how painstaking he might be, he had to suffer much criticism and opposition. But he was fully alive to the advantages of medical training, and sent all his five sons to a medical school—surely a unique occurrence for one family. Each of them qualified to practice medicine. The eldest and the youngest, Hugh Owen and John Lewis, became widely known, one as a pioneer of orthopedic surgery and the other as a leader in gynecology.

H.O. Thomas was a small, thin, and nervous boy. Because of indifferent health he was sent to live with his grandparents at Rhos Colyn, where he went to school until the age of 13 years. His headmaster took a particular interest in him. During this time he sustained an injury, the effects of which were life-long. A boy threw a stone, which struck him under the left eye. The resulting scar caused a painful ectropion. In later years he always wore a seaman's cap with the peak tilted down over the injured eye in order to protect it from cold winds and to screen the disfigurement. From Rhos Colyn he went on to the college at New Brighton, where he remained until the age of 17, when he became apprenticed for 4 years to his maternal uncle, Dr. Owen Roberts of St. Asaph, who was surgeon to the Workhouse Infirmary. In 1855, Thomas enrolled as a student at the University of Edinburgh at a time when Syme, Simpson, and Goodsir were at the height of their fame. Lister and Turner, newly arrived from London, were beginning their great careers in Scotland. After two winter sessions he transferred to University College, London, where he spent a third session. In 1857, when 23 years of age, he qualified as a member of the Royal College of Surgeons and then went to study the work of French surgeons in the hospitals of Paris. He admired the ingenuity and craftsmanship of the surgical instrument-makers and brought home ophthalmic knives on which he subsequently modeled his tenotomes. He joined his father in the practice at Great Crosshall Street, bringing to it a critical mind based on knowledge acquired at great medical schools. He could not help making suggestions about treatment, but he was not as tactful as he might have been. His father resented changes in the traditional procedure and at the end of a year the partnership ceased.

Hugh Owen Thomas started practice on his own at 24 Hardy Street in 1859 and became medical officer to several labor organizations and societies. His reputation grew rapidly and the number of his patients so increased that he had to seek greater accommodation. He found it at 11 Nelson Street, to which he moved in 1866. Soon,

even this house had to be enlarged by the building of an extension of two waiting rooms, four consulting rooms, a surgery, and a workshop. The house in Hardy Street was converted into a private hospital of eight beds with a trained nurse in charge. He staffed the workshop with a smith and a leather-worker, who were fully occupied in making splints and appliances of his design. Such was the establishment of Hugh Owen Thomas in 1868. What other physician or surgeon in Britain thought it essential to have a private hospital and an elaborately equipped workshop whereby to treat his patients and work out his ideas?

It mattered little that he never occupied a resident hospital appointment, or that he was ostensibly in general practice. Three factors accounted for his unique emergence as a surgeon of extraordinary type. First was his ancestral background: he had inherited an unorthodox therapeutic of which he was to be the interpreter. Secondly, the field of his labors was eminently suitable for the application and wide extension of that therapeutic. Lastly, he was fortunate in the timely teaching of John Hunter's "*Rest and Pain*," which fitted his own conception of the way of cure for bone or joint afflicted with disease or injury.

Like Hunter, he had respect for the inherent power of repair possessed by living organisms. To foster this property of tissues he avoided, as he put it, "a hankering to interfere, which thwarts the inherent tendency to recovery." In the treatment of tuberculous joints, he believed that the one essential was enforced, uninterrupted, and prolonged rest.[3] He complained that surgeons did not know the meaning of rest, or if they did they were unable to secure it, with the result that many limbs were amputated.

Although for many years he had achieved remarkable results in the treatment of chronic joint diseases, his methods were not known until, at the instigation of Rushton Parker, he published in 1875 his first book entitled *Diseases of the Hip, Knee, and Ankle Joints*.[4] In this work the now famous hip and knee splints were described for the first time. He had tried his methods, and carefully checked his results, on more than 1,000 patients before proclaiming the principles of his treatment. This publication revealed him as an original thinker in surgery. His appliances were the outcome of much probing of the problems of disease and deformity and of the laws that governed restoration of function. After many trials, he simplified the construction of his splints to a single design so that they would "enable any surgeon to treat his cases at home, with no more mechanical assistance than can be rendered by the village blacksmith and saddler." But it is a great error to believe that Thomas was no more than an inventor of splints; indeed he protested against such an estimate of his work. He wrote on fractures and dislocations. By means of fixed traction and the bed caliper splint, he achieved in workmen's dwellings such results in the treatment of fractures as were probably unequalled by any other practitioner. No surgeon in England handled so many fractures in one year or devoted such meticulous care to their management. In those days, the fracture was the Cinderella of surgical practice. Rest and alignment were his watchwords. Both were secured by his splints in a day when no x-rays were available.[1]

In the treatment of infantile paralysis, he again insisted on rest, coupled with relaxation of the paralyzed muscles. An example of this principle was the cock-up splint he developed for drop-wrist. He introduced many other devices such as the wrench, the cuff and collar sling, the practice of damming and percussing for ununited fractures, and the clinical test for flexion deformity of the ankylosed hip. Once embarked as a writer, he issued a series of "Contributions to Medicine and Surgery," which appeared at intervals throughout the rest of his life. All his teaching is embodied in these works, but unfortunately they were not well produced; he chose an unknown publisher; they appeared in paper covers; they did not find a ready sale; and his teaching was much less diffused than it should have been.[2] Furthermore, he ploughed a lonely furrow and had few professional contacts in Liverpool. There were discerning surgeons who valued his work—Edmund Owen, Ericksen, Thomas Bryant, and in America, Gibney, and Ridlon—the latter traveled to England to see his work and was amazed at what he saw.

Thomas was invited to scientific meetings to disclose his teaching, but he could not be induced to leave his practice. For 30 years he took no holiday. His teaching, however, was preserved. In 1864 he married Elizabeth, the daughter of Robert Jones of Rhy1, and was completely happy. They had no children and in 1873 they offered their young nephew Robert a home in Liverpool in order that he might study medicine. Uncle and nephew became deeply attached and the younger man imbibed all that Thomas could teach. In later years the disciple became the zealous apostle of

Thomas and at last the profession throughout the world became acquainted with his doctrine. Thomas, overworked, died at the age of 57 on January 6, 1891. The manifestation of grief in Liverpool was astonishing. It was a testimony to "his personal care in the service of his patients." No other pioneer contributed so much in establishing the fundamental principles of orthopedic surgery.

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Frederick Roeck THOMPSON

1907–1983

Frederick Roeck Thompson, former director of the Department of Orthopedic Surgery at St. Luke's Hospital Center in New York City, died on April 12, 1983. He was 75 years old.

Born in Galveston, Texas, in 1907, the son of James Edwin Thompson, professor of surgery at the University of Texas, Frederick was one of eight children, four boys and four girls. All of his brothers became surgeons and one sister married a surgeon. He received a Bachelor of Arts degree from the University of Texas in 1927 and a Doctorate of Medicine from the University of Texas Medical School in 1931. He pursued postgraduate training in surgery at the Roosevelt Hospital in New York City and became a fellow at the New York Orthopedic Dispensary and Hospital in 1934, finishing his orthopedic training in 1939. During that time he married Carolyn Laura Bryan, also from Texas.

Following a tour of the orthopedic clinics in Europe, Dr. Thompson joined the staff at St. Luke's Hospital in 1935, at the invitation of Dr. Mather Cleveland. His interests in orthopedic surgery were widespread. He wrote 41 medical manuscripts and was the author of nine medical motion pictures. Although his primary interests involved hip and spine surgery, his publications included articles on trauma and adult and pediatric reconstructive surgery.

Dr. Thompson's most outstanding contribution to orthopedic surgery was the development, in 1950, of the hip prosthesis that bears his name. This design became a prototype for many later prostheses, including the femoral component for the total hip replacement in use today.

A member of many societies, including the American Orthopedic Association and the Canadian Orthopedic Association, Dr. Thompson was president of the Russell Hibbs Society in 1950, president of the Association of Bone and Joint Surgeons in 1961, a founding member of the Hip Society, and vice president of the American Academy of Orthopedic Surgeons from 1966 to 1968.

Dr. Thompson became director of orthopedic surgery at St. Luke's Hospital in New York City in 1961, succeeding Dr. David M. Bosworth. An excellent technical surgeon, he personally tutored his residents in the art and skills of surgery. He demanded the highest level of proficiency and would never accept less. Under his direction, the size and scope of the orthopedic service grew, making it one of the most outstanding services and residencies of the hospital.

Although he committed most of his time to orthopedic surgery, Dr. Thompson was a devoted sportsman with great interest in hunting and fishing, which provided an important diversion from his medical activities. He approached these hobbies with the same enthusiasm as he did his professional life, and was particularly interested

in the behavior of wildlife. An active member of several fish and game clubs in the north east, including the Camp Fire Club of America and the Anglers Club of New York City, he spent countless hours studying the art of fly-fishing and participating in outdoor events with these organizations.

Probably his greatest attribute was an insatiable curiosity and the desire to develop new ideas. This enthusiasm was transferred to the residents he trained, who respected him not only as their teacher, but as a person who supported and cared about their future careers. Dr. Thompson was survived by his wife Carolyn and their three children.

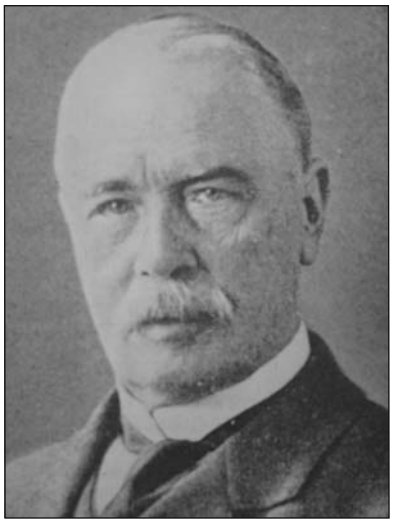
Jules TINEL

1879–1952

Tinel was a French neurologist who wrote an excellent book on the effects of nerve injuries during the First World War, and from it one may judge how times have changed, for nerve suture is hardly mentioned. He had a research interest in the autonomic system, producing a thick volume on the subject; he was noted for the ingenuity of his apparatus, which was often constructed of Meccano.

He was born in Rouen, the fifth in a line of distinguished doctors. His father was professor of anatomy at Rouen. Tinel studied in Paris. It was when he was mobilized for the war that he found himself in a neurological unit and was able to study the long-term effects of severe nerve injury. He gave the first account of paroxysmal hypertension due to phaeochromocytoma.

During the Second World War he had to leave the hospital; his family were interned, and one son was executed by the Gestapo because the family had helped to run an escape route.



Friedrich TRENDELENBURG

1844–1924

Friedrich Trendelenburg was born in Berlin, Germany, where his father was a professor of philosophy and his mother was a teacher. Instead of attending school, he was educated at home by his parents. When his family moved to Glasgow, Scotland, he continued his studies, and in 1863 began to study anatomy and embryology. Between 1864 and 1866 he studied medicine in various clinics, finally being granted his medical degree by the University of Berlin. Such an educational background was not unusual in those days and medical students commonly studied for various periods at different institutions. After serving the required period in the army as a military surgeon, Trendelenburg returned to Berlin and came under the influence of the greatest German surgeon of the period, Bernard Langenbeck. After what would be called a residency today, lasting from 1868 to 1874, Trendelenburg became a surgeon in an important Berlin hospital. A few years later he became the professor of surgery in Rostock, Germany. His academic

career flourished and included later appointment to the chairs of surgery at the universities of Bonn and Leipzig. He was an important leader in German surgery during the last half of the nineteenth century. He was the founder of the German Society of Surgeons and became its president.

Trendelenburg was a practical surgeon of wide experience. He popularized what has become known as the Trendelenburg position as an aid to performing pelvic and lower abdominal procedures. He raised the possibility of surgically removing pulmonary emboli of large blood clots, although he never performed the operation itself. He died of carcinoma of the mandible.

W.H. TRETHOWAN

1882–1934

W.H. Trethowan was a student of Guy's Hospital and was appointed its first orthopedic surgeon in 1912. He was one of Robert Jones' team at Shepherd's Bush in World War I. After the war, he joined the staffs of the Royal National Orthopedic Hospital and Queen Mary's Hospital for Children, Carshalton, and quickly established one of the largest private practices in London.

He was a genius; but unfortunately he seldom committed his ideas to print. Indeed, his only writings were "The Treatment of Simple Fractures" in Robert Jones' *Textbook of Military Orthopedic Surgery* (1920) and an article of singular clarity and brevity on orthopedics in Choyce's *System of Surgery*. It was his custom to make full notes and to write long explanatory letters to doctors. Fortunately, a selection of these letters expressing Trethowan's views on topical orthopedic conditions (foot anomalies, abnormalities of the back, disorders of the knee and bone grafting) has been published in book form by his associates, Lambrinudi and Stamen. Reading these is almost to hear the fervent advocacy or condemnation all over again. It is to be hoped that this remarkably fine little book, containing the views of one of the greatest, if not always the soundest, of teachers will be reproduced.

One recalls his outpatient sessions: there was never a dull moment. His imitations of gaits in various orthopedic conditions can never be forgotten by any who had the good fortune to be present. He maintained that the object of orthopedic surgery could be written on a thumbnail—function. As an operator he has never been equalled. Indeed, a house surgeon of his once said: "I would insist on Treth (as he was known to all) doing in my operation if Elmslie decided that an operation was necessary." A disciple of Arbuthnot Lane, he quickly mastered the no-touch technique and applied it to every operation, great and small. His incisions were long, to enable him to see before he cut and to make it unnecessary to use the sense of touch. He never ligated vessels, maintaining that if a surgeon exposed bone at its most superficial point and stayed close to bone, he was unlikely to cut any vessels of importance.

Bone-grafting was perhaps his special forte. He favored long intramedullary insertion of the graft at one end and a mortise fit to the circumference of the bone at the other. In the writer's judgment he was a greater technician in this field than Albee, who was not embarrassed by adherence to a no-touch technique!

At conferences he often favored the dramatic touch. Few will ever forget seeing him, during a discussion, probably on foot deformities, spring to his feet brandishing a Thomas' wrench and exclaiming, "This is a barbarous weapon!" as he threw it to the floor. His good friend Robert Jones was not perturbed and let the remark pass with a kindly smile. Trethowan was a generous friend and a remarkable host. No one enjoyed a party more and he was always the last to leave. Many will recall parties at his Hampstead home where in the billiard room he had installed an enormous organ. An able performer, he would begin to play perhaps at midnight and continue fortissimo well into the early hours of the morning. He was a

great figure, a most simulating chief, and a good friend.

Joseph TRUETA

1897–1977

Joseph Trueta was professor emeritus of orthopedic surgery in the University of Oxford. He qualified in Barcelona and became chief surgeon to the Caja de Provision y Socorro in 1929. As professor of surgery in Barcelona in 1935, he was faced, almost at once, with the problem of treating the casualties of the Spanish Civil War, which led him to develop the closed plaster technique. Early in 1939, his liberal convictions drove him to move himself and his family to London, where his first-hand experience of air-raid surgery resulted in a great demand for his services as a lecturer and an invitation to Oxford as an adviser to the Ministry of Health. In 1949, he was elected to the Nuffield Chair of Orthopedic Surgery in Oxford and held this post until 1966. He was thus able to reorganize the Wingfield Morris Hospital as the Nuffield Orthopedic Centre and produce a steady stream of publications on almost every aspect of orthopedic surgery. His international reputation was recognized by an honorary DSc from the University of Oxford, and an honorary fellowship of the Royal Colleges of Surgeons of England and of Canada, and of the American College of Surgeons. He was an Officier de la Légion d'Honneur and honorary fellow of many other orthopedic associations round the world. The British Orthopedic Association presented him with the scroll of honorary fellowship during the sixth combined meeting in September 1976.

Joseph Trueta retired to his Catalonian motherland in 1966 but continued his surgical and scientific work. He died on January 19, 1977, in his 80th year. His wife died in 1975, but he was survived by his three daughters.

Many are so familiar with Trueta's work on war (and other) wounds that there is no need to recapitulate his perfection of the method that Winnett Orr had previously and somewhat hesitantly devised. That Trueta arrived in this country in 1939 was a godsend; after a short-lived display of characteristic British scepticism, we were converted to the "closed-plaster" regimen. I had the immense privilege of seeing those wounds before and after he had dealt with them: but it fell to my lot to take a later look inside far more often than even J.T. himself. Because the Wingfield was an official nerve injuries center, hundreds of men with complex injuries came to us. Trueta—and Jim Scott—dealt with their soft-tissue and skeletal injuries—apart from the damaged nerves, which we tackled as soon as they said it was safe to do so. Scores of photographs attest how benign was the scarring we encountered.

J.T.'s energy and scholarship were immense. He made time for some refined experiments on the renal circulation, prompted by the anuria that is sometimes seen after a severe crushing injury of a leg. He and John Barnes found that the application of a tourniquet to a rabbit's hind leg produced arterial spasm extending up to the renal vessels. An imposing team headed by J.T. and Barclay produced an account of a comprehensive study in 1947. It was not accepted by the nephrologists. Now I have it from one of the best of them that Trueta and his colleagues were very nearly right, but they overstressed the shutting down of the cortical, as opposed to the medullary, circulation. I quote: "the standing of Trueta, Barclay *et al*. is therefore very high still."

But perhaps one remembers this great man best as the embodiment of the *Spirit of Catalonia* (the title of a work of filial piety that he published in 1946). It was always a pleasure to see his fine figure and handsome, vivacious face, and to listen to him, even though he never quite understood that going at top speed in a foreign tongue was not exactly the same as fluency. But there were

occasions when he was almost wildly elated. Someone had managed to escape from Franco's Spain, or had *certain news* that deliverance would come to the country next month or, at the latest, the one after. Trueta had had it first-hand the night before. This was a fairly regular occurrence and we became bored with it, having a sizeable war of our own on our hands. But his faith was unquenchable, so it was inevitable that on retirement he returned to his native land: inevitable and well-nigh incredible that when in the UK for the treatment of his last illness, he dragged himself home to die in peace in the country he loved so passionately.

When Joseph Trueta took the chair in orthopedic surgery at Oxford, there already lay behind him two careers, each crowned by its own accomplishment. By 1939, his first career in Barcelona had ended. He had responded brilliantly to what he called "the sad privilege" of his responsibility for the first urban population in history to be massively attacked from the air. His second career, as an emigré in an Oxford laboratory unraveling some of the complexities of the renal circulation, was brief but characteristically fruitful and is now embalmed in the textbooks of physiology. It was in his third incarnation as Oxford's professor that his remarkable experience was built upon, broadened and generously shared with anyone who cared to join him. For 20 years, J.T. rushed into everything at once, bombarding himself with questions, which sprang to his mind even from the most mundane of clinical problems. He was the very master of the art of digression, and yet capable of directing his energy to laboratory studies of the disease processes he strove to understand in his patients. The discipline he offered, that we should combine most intimately our therapeutic and research roles, was not a new one, but it has more theoretical adherents than it has practitioners. He taught it by precept and thereby caught the imagination of many of those who came from all over the world to work with him. He had little formal order in his life, was always tremendously busy but somehow had time for everyone.

Trueta's long investigation, with generations of collaborators, into the vascular contribution to osteogenesis, the vascular anatomy of bone, the orderly and the disorderly function of the epiphysis, cartilage growth, repair and decay, osteoarthritis and osteomyelitis can now be seen to constitute the firm basis of so much modern thought that to acclaim him the foremost among those who have contributed to fundamental orthopedic research in our era no longer seems unduly partisan. But he was involved in so much more. In Oxford he founded a Disabled Living Research Centre and was one of the first in this country to respond to the consequences of the thalidomide disaster. He pioneered a unit to deal with skeletal complications of hemophilia and, in collaboration with the department of hematology, established principles of management that are now widely practiced. He organized and personally inaugurated by several visits to that country an educational exchange with the Republic of the Sudan, a program that has continued uninterruptedly to this day.

In 1966, Joseph Trueta retired from Oxford to begin the last of his careers, once again in Barcelona. While still maintaining a busy clinical practice, he wrote a biography of G.R. Girdlestone, whom he admired above all, prepared his own memoirs, read history and lectured his way around the world. Gradually, as the political climate in his country changed, the people of Catalonia saw him for the patriot he had always been, and before he died the reconciliation between the great surgeon and the country that he had fled nearly 40 years before was completed by his acceptance of the highest honor the King of Spain can bestow. And more significant yet of the extraordinary regard in which he was held, the citizens of Barcelona crowded the great church of Santa Maria del Mar to hear his funeral mass and to listen to the music of Pablo Casals, his old friend and fellow exile.

In the somewhat prosaic world of British orthopedics, the breadth of Joseph Trueta's interests and influence, his sense of the drama of life and even perhaps his splendid misuse of the spoken English language all conspired to keep him a little apart from "The Establishment," which, with another side of his personality, he so earnestly wished to join.

When Joseph and Amelia Trueta brought their young family to England and were befriended by G.R. Girdlestone, there was started a process that now links in a mutual experience some hundreds of men and women in many countries of the world. They remember the debonair, provocative and profoundly civilized man who enlarged our concept of the orthopedic surgeon to include the

orthopedic scientist, and who by his example personified both.

Joseph Trueta was more than a great clinical scientist; he was a man of immense intellectual distinction who could fascinate with his views on history, music, art, politics and people just as effectively as he would expound originally on the fundamentals of orthopedic disease. He generated a sense of authority, which was totally divorced from any pomposity or "chiefmanship." Always realizing that one was in the presence of a master, one still felt completely at ease and could interrupt and contradict as though in discussion with an equal. This was one of his great strengths. As an orthopedic thinker, he will probably be judged by posterity as one of the most outstanding in his generation, yet he was completely open to ideas from a new house surgeon or from a worker in some quite unrelated field of medicine or science.

His scientific ethos was the primal position of the vasculature in health and disease. "It's all a matter of blood supply," was the basis of his philosophy of wound care. Likewise it was the essence of his novel concepts of the cause of many renal disorders, the pathology of osteoarthritis and the treatment of osteomyelitis. He believed that the capillaries held the key to the understanding of the mysteries of development and decay of the human skeleton. His views, always unusual, were presented with passion in his own special brand of English, spoken with an arresting Catalan accent. While the listener was fascinated and stimulated, J.T. was always evolving the concept as he went on explaining. Then it was back to the data and the experiment for further clarification.

In the early days in Oxford, this meant considerable efforts, because in 1947 he had to use the animal house at the Royal Veterinary College in London for his studies on long bone vascularization, making the journey from Oxford twice a week. Later he established his own facilities at the Nuffield Orthopedic Centre, surely the first in a British orthopedic hospital. For 20 years he was the acknowledged leader of one aspect of the emerging science of orthopedics—the investigation of the disordered biology of bone.

He was a man of great loyalty, who inspired love and loyalty in his family, his friends, his patients and his pupils. Countless patients revered him; Lord Nuffield financed his concept of an Orthopedic Centre at Headington, which was to house a School of Orthopedics, whose alumni now occupy professional chairs and other positions of high responsibility in many countries of the world.

He loved to recount the story of his first meeting with Girdlestone at the surgical section of the Royal Society of Medicine, where he had been booked to speak on his experience in the Spanish Civil War, which was so relevant to what was about to break on Britain. He agreed to speak in French with an interpreter, but no sooner had he begun than up jumped G.R.G. to demand that he use English, no matter how poor. J.T. complied but he felt that the lecture was a disaster; at the conclusion the man with the piercing blue eyes who had interrupted came and grasped his hand with both his own and urged him to visit him in Oxford. This he did and stayed for 30 years.

That original meeting was crucial for all who worked and learned at his side. He loved G.R.G. and gave everything he could to assist him, and after his death in 1950 J.T. perpetuated his tradition in the minds of those men and women who came to Oxford under the influence of his own inspiration.

J.T. was a man of passion who always seemed to be in the throes of some excitement. When the violence of the Spanish Civil War was ultimately replaced by peacetime Oxford, there were always exciting plans, unexpected setbacks, overcrowded calendars and last-minute departures. Nothing ran smoothly for very long, but the ending was always happy.

The memory of this elegant, handsome man of natural refinement will remain bright in the minds of all who knew him. His delight was his family; his wife and his three daughters and in turn their children, and also his family of pupils. He was a benign father to many of us. Some of us may have regrets that we did not repay more, but we will all be grateful for having known a man so great.

Alfred Herbert TUBBY

1862–1930

Alfred Herbert Tubby played a leading part in the development of orthopedic surgery, particularly during its transition from the period of tenotomy and appliances to that of open operative correction of deformity.

He derived from South Country yeoman stock and was born on May 23, 1862, the son of Alfred Tubby, a corn merchant living in Great Titchfield Street, London, and his wife Frances, née Roe. A few months after the child's birth, his father died. Alfred was educated at Christ's Hospital, then in Newgate Street, London, where he had as schoolfellow F.J. Smith, who was to become Tubby's colleague on the staff of the National Orthopedic Hospital and a well-known physician to the London Hospital; author of a standard work on medical jurisprudence. Tubby in later years was consulting surgeon, governor and almoner to Christ's Hospital. On leaving the Bluecoat School, he proceeded to Guy's Hospital, where he distinguished himself as a prizeman, qualifying in 1884 as a member of the Royal College of Surgeons.[3] At the final medical examinations of London University in 1887, he won the gold medal in medicine and the gold medal in surgery, besides gaining honors in anatomy, materia medica and forensic medicine; the same year he became a fellow of the Royal College of Surgeons. He proceeded to the degree of Master of Surgery in 1890. At different periods he studied at Halle and Leipzig; it was this German training that attracted him to the work of Lange and Vulpius on tendon transplantation in infantile paralysis.

Studies of Tendon Repair

Tubby was appointed senior demonstrator of physiology at Guy's Hospital and while occupying this post he carried out important researches on tendon repair, employing new staining methods he had learnt from Beneke of Brunswick. The Achilles tendons of full-grown rabbits were divided with antiseptic precautions, the punctures being protected with gauze. The animals were killed at intervals from 3 days up to 33 weeks, one at 13 months after tenotomy. His observations on the microscopic sections were reported in 1892 in the *Pathological Society's Transcations* and *Guy's Hospital Reports*.

In 1891, Tubby became surgeon to the Evelina Hospital and to the National Orthopedic Hospital. In 1894, he was elected assistant surgeon to Westminster Hospital and 4 years later became surgeon, an appointment he held for 30 years. He was given charge of the orthopedic department and lectured on clinical and orthopedic surgery. He also served as dean of the medical school, an office in which his keen business instincts were of value to the administration of the hospital. He was also consulting surgeon to the Hospital for Hip Disease, Sevenoaks.

British Orthopedic Society

In 1894, Tubby was elected joint secretary of the newly formed British Orthopedic Society, whose avowed object was the advancement of orthopedic surgery. This body came into being after an informal discussion between a group of surgeons interested in the surgery of deformities, who met at Bristol during the annual meeting of the British Medical Association. Meetings were held in London or a provincial center, the program consisting of clinical demonstrations, papers and discussions. Thus on May 24, 1895, the Society visited the Royal Infirmary and Southern Hospital, Liverpool; at the Medical Institution Robert Jones introduced a discussion on the treatment of intractable talipes equinovarus, demonstrating a remarkable number of patients cured of this stubborn deformity. But the Society lasted only for about 4 years; it published three slender volumes

of its transactions, which serve as a permanent record of an early effort to bring orthopedic surgeons together to discuss their art and make social contact. The Society was a forerunner of the British Orthopedic Association and in one way was more fortunate than its greater successor in that all its gathered grain was brought together into its own storehouse, whereas the Association unwillingly scattered its harvest for many years before it was able to shelter its products under its own roof.

Important Publications

In 1896, Tubby published a book entitled *Deformities: a Treatise on Orthopedic Surgery*.[4] It was the best work on orthopedic surgery that had yet appeared in England and was something of a landmark in the development of this branch of surgery. It was based mainly on the experience the author had gained at the National Orthopedic Hospital and the Evelina Hospital for Sick Children. He drew on his own hospital case notes; of the lavish number of illustrations produced, 200 were original. But he cast his net widely in order to gather the thinking and practice of surgeons in America and on the Continent. The work was an authoritative presentation of orthopedic surgery as understood in the closing years of the nineteenth century; it revealed how great had been its progress since W.J. Little in 1839 published his classic *A Treatise on Club-Foot and the Nature of Analogous Distortions.* But Tubby felt that this branch of surgery had still to reach maturity; a passage in the preface of his book makes strange reading: "The practice of Orthopedic Surgery in England does not include all phases of diseases of bones and joints such as tuberculous ostitis and arthritis of the hip and knee, on what grounds it is difficult to understand."

During the last decade of the nineteenth century, tendon transplantation attracted widespread attention. This operation was first performed by Nicoladani in 1882, when he attached the peronei to the tendo achillis in a patient with talipes calcaneus. In 1892, Parish and Drobnik independently applied the same method to other forms of foot paralysis. In 1894, Winkelman analyzed a series of cases in which he had performed the operation. This was followed by a series published by Goldthwait; and Townsend wrote on tendon transplantation in the hand. The last paper, read before the British Orthopedic Society in 1898, was one by T.H. Openshaw on tendon transplantation.

Collaboration with Sir Robert Jones

In 1903, A.H. Tubby collaborated with Robert Jones in publishing a book on *Modern Methods in the Surgery of Paralysis*.[7] The work consisted of a summary of all that had been done by tendon transplantation and arthrodesis in the treatment of paralysis, together with their own experience of these methods. The many indications for tendon transplantation and its technique were described. Their treatment of spastic paralysis was an innovation; little had been attempted for this type of patient; indeed physicians discouraged surgery. The authors advocated tenotomy of adductors, hamstrings and tendo achillis and nursing the patient on an abduction frame or Thomas' calipers in abduction, to be followed by re-education walking exercises. By these procedures they were able to get these patients walking and capable of instruction. For the spastic pronated hand, the pronator radii teres was converted into a supinator by detaching its insertion, with periosteum, passing it through the interosseous membrane, behind the radius and reattaching it to the outer side of the bone. Flexor carpi ulnaris was transplanted into extensor carpi ulnaris and flexor carpi radialis into the radial extensors. Arthrodesis was sometimes combined with tendon transplantation in patients with infantile paralysis; more often fusion of the ankle was carried out. They had performed over 100 such operations. The publication of this work in 1903 was a distinct landmark in the progress of orthopedic surgery.

In 1912, Tubby published a new edition of his textbook with the ominous title *Deformities Including Diseases of the Bones and Joints*.[5] Sixteen years had passed since its first appearance and during the interval the whole field of orthopedic surgery had greatly advanced, with a corresponding literature dealing with it. He had been obliged to rewrite the whole work and to arrange the various subjects according to their etiology and pathology rather than on a regional classification as in the previous edition. Such was the accumulated material that the author had to issue the work in two large volumes, which contained 70 plates and more than 1,000 illustrations, of which 400 were original. In 1896, Tubby protested at the exclusion of diseases of bones and joints, apart from the spine, from the province of

orthopedic surgery. In 1912, he boldly declared that orthopedic surgery is the surgery of the entire locomotor apparatus.

This publication had the appearance of a work of reference; the whole world literature had been well sifted, to which Tubby's many contributions were added. Each subject was well balanced; etiology, pathology and treatment were given proper consideration. It was the best work on orthopedic surgery in any language and has scarcely been equalled since. The clear descriptive power of the author was not least of its features. Its reading still imparts a peculiar delight and that not without profit.

Wartime Activities

Within 3 years of the publishing of this great work on orthopedic surgery, the upheaval of the First World War occurred. Tubby, who had held a commission as major in the Royal Army Medical Corps since the inception of the Territorial Force, was called up for service to the Fourth London General Hospital with the rank of lieutenant colonel. In 1915, he was seconded for service as consulting surgeon to the British Mediterranean Force, with the rank of colonel, Army Medical Service, but was soon transferred to the Egyptian Expeditionary Force. He was stationed at Alexandria with Sir Victor Horsley as his colleague until Horsley was transferred to Mesopotamia. His war experiences were related in a book, *A Consulting Surgeon in the Near East*, published in 1920.[6] He gave a graphic account of the Gallipoli Campaign, of the sufferings of the troops, and the difficulties with sanitation that had to be surmounted. He organized fracture and orthopedic treatment in Egypt but was unable to get sanction for segregation of fracture patients or special hospitals for their treatment. He had much to say about the duties of a consultant and offered helpful criticism about his relation to the establishment and the need for facilities for consultants of different groups to meet and discuss their problems; a consultant often found himself isolated. He returned to civilian practice in 1919 and afterwards contributed a series of articles to the *Clinical Journal*, which in 1925 were published in a small volume entitled *The Advance of Orthopedic Surgery*. In 1928, he made his last contribution in the form of a well-illustrated article in the *Lancet* on the selection and standardization of surgical instruments, with microscopic photographs of knife blades, examining their hardness and ascertaining the effect of the stainless process upon them.[2] He concluded that the economy and labor-saving advantages obtained by using stainless-steel instruments were warranted by the fact that the metal suffered no loss of hardness.

Interests in Art and Science

Tubby was a man of wide culture and many interests.[1] He was an excellent linguist, an archaeologist, an Alpine climber, a sportsman and had been prime warden of a City company, the Ironmongers. During a quiet interval in 1916 he, with Colonel H.E.R. James, carried out excavations at Chatby, near Alexandria. They discovered hundreds of objects of the early Ptolemaic period and reported the findings in the *Bulletin de la Société d'Archéologie*. In the Alps he was fond of hunting chamois, a gregarious animal resembling the antelope. Of this sport he wrote in the *Alpine Journal* and in *British Sports and Sportsmen*. He often went on holiday with his friend Sir Robert Jones, who said of him: "He loved the Alps and more especially the peaks of the Austrian Tyrol in chase of chamoix. His experiences of such adventures were always brilliantly recorded. For many years we shared a shoot in Prussia in the midst of deer and wild boar and stayed with a mutual friend and landowner, Robert Tudor. Many a winter evening we spent in close intimacy by the fireside listening with delight to Alfred Tubby on the habits of animals and his experience of travel."

Tubby was the recipient of many honors. He was joint founder in 1901 of the Society for the Study of Disease in Children, which later became a section of the Royal Society of Medicine. He was president of this section in 1912. He was also president of the Section of Diseases of Children at the annual meeting of the British Medical Association at Exeter in 1907 and of the joint Section of Orthopedics and Diseases of Children at Newcastle in 1921. In 1912, he was president of the Hunterian Society and as orator took "The Surgery of Paralysis" as his subject. He was corresponding member of the American Orthopedic Association and an honorary member of several French scientific societies. In 1915, he was awarded the gold medal of the first class from Aecademia Fisico-Chemica Italiana for distinction in science and the humanities. In 1924, he

was elected a fellow of the Society of Antiquaries. He returned from Egypt with two war decorations, one the Companion of the Bath and the other the Companion of St. Michael and St. George. He died at Hastings on February 23, 1930.

He was about medium height, broad-shouldered and of distinguished appearance, his complexion slightly sallow, with pleasant blue-grey eyes that lent some attraction to his personality. He was an excellent conversationalist, his voice low-pitched and friendly. In 1890, he married Beatrice, the second daughter of William Payne of the Chamber of London. He had one daughter. Alfred Tubby was old enough to be familiar with the traditions of pre-antiseptic surgery and young enough to embrace the teaching of Lister. He was therefore well placed to hand on a written account of what was of permanent value in the teaching of the early pioneers and yet well qualified to lead in the advance, under antiseptic precautions, of open operative correction of deformity. Furthermore he stood firm by the definition of orthopedic surgery as the surgery of the entire locomotor system. By his incomparable textbook of 1912, he helped to raise the prestige of British orthopedic surgery.

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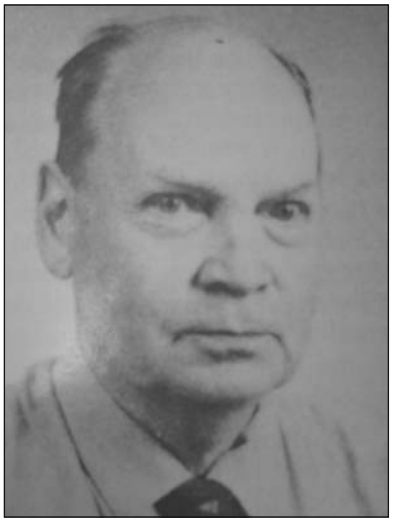


Kauko VAINIO

1913–1989

Kauko Vainio a Finnish orthopedic surgeon of outstanding international achievement, was born on May 1, 1913 in Sääminki, Finland. The worldwide application of orthopedic surgery in the treatment of rheumatoid arthritis began when Vainio was appointed head orthopedist at the Rheumatism Foundation Hospital in Heinola in 1952. In 1956 he was appointed first senior lecturer of orthopedic rheumatology at the University of Helsinki. He was named honorary professor in 1970.

Since graduating from the Helsinki University Medical School in 1939, Vainio's early professional life was dominated by military field surgery, ultimately as a major during Finland's struggle for freedom in the Second World War, followed by the postwar hardship.

After a decisive period of postgraduate training, he qualified as an orthopedic surgeon from the Orthopedic Hospital of the Invalid Foundation in Helsinki. Vainio's international activities began with a residency at the Anderson Orthopedic Hospital in the United States in 1949. Long before the current challenges of the growing organized international university exchange programs and projects, Vainio made unbelievable efforts toward a better understanding and relationship between colleagues around the orthopedic world, with special reference to his life's work—the operative treatment of the rheumatoid limb as an integrated part of the overall plan for the rheumatoid patient. He is said to have established a

school of about 1,000 residents and visitors from Belgium, Canada, Czechoslovakia, Great Britain, Israel, Japan, Norway, Poland, Romania, Sweden, and the United States at his department in Heinola until his retirement in 1975. The 2-day 60th Anniversary Vainio Meeting in Heinola was attended by 50 international specialists in rheumatology.

Vainio was a frequent lecturer at international congresses and meetings concerned with orthopedics, rheumatology, and hand surgery. He was a man with innumerable friends and spare-time activities. At a rather early stage in his orthopedic career, Vainio drew fundamental guidelines for the operative treatment of the rheumatoid deformities of the foot based on a thorough classification of the typical abnormalities and their pathogenesis. His subsequent publications dealt proficiently with the rheumatoid hand.

Kauko Vainio died on January 17,1989 in Heinola, Finland.

Henk VERBIEST

1909–1997

Henk Verbiest was born in Rotterdam in 1909. He studied medicine at the University of Leiden between 1927 and 1934. While he was a medical student, Verbiest did research in pigeons on several neurological problems. After graduation, Verbiest worked in the department of neurology until 1937. On the basis of research done during this period, he was granted a doctoral degree in 1939. From 1938 to 1939, Verbiest studied neurosurgery in Paris. The outbreak of World War II forced him to return to Utrecht where, because of wartime conditions, he was appointed head of the department of neurosurgery. After the war, Verbiest became well known for his research, for his clinical acumen, and for his surgical skills. He became especially well known for his work on anterior and lateral approaches to the cervical spine.

During his career Verbiest received many honors from his own government and from the international neurosurgical community. He is, perhaps, best remembered for his description of spinal stenosis. One of the classic symptoms of spinal stenosis, intermittent claudication of the spine, is called Verbiest's syndrome.

Jean VERBRUGGE

1896–1964

The Belgian medical world, and especially its orthopedic surgeons, mourn the passing of an eminent surgeon, a good man, and an incomparable friend.

Jean Verbrugge was born in 1896, on December 16. After brilliant intermediary studies at Antwerp, he graduated and gained his degree, in 1921, as a doctor of medicine, surgeon, and obstetrician from the University of Brussels, with the highest honors. He was almost immediately awarded a scholarship as a Fellow of the Com-

mittee for Relief in Belgium (CRB Educational Foundation) and spent 2 years, up to 1924, at the Mayo Clinic. He completed his training with Professor Putti in Italy and Professor Leriche in France. As early as 1925, he started his career at the Stuyvenberg Hospital in Antwerp, where he eventually succeeded Albin Lambotte as head of the surgical department. For many years, he worked in trusted collaboration with this universally recognized surgeon, who may be said to have been the founder of the modern technique of osteosynthesis. The fondness of Jean Verbrugge for his illustrious master was such that, even when he had attained the highest honors, he never failed to recall the teachings of the man whom he described as "My master, Monsieur Lambotte." His honesty and modesty were proverbial. Finally, he became professor of orthopedic surgery at the University of Ghent and he died in harness.

Orthopedic science as well as orthopedic surgery owes a great deal to Jean Verbrugge, as evidenced by his numerous books, papers, reports, lectures—about 175 publications in all. He also prepared a textbook of orthopedics especially for the use of his students. All sorts of honors naturally rewarded his brilliant efforts and, as was only to be expected, he was a member of some 20 surgical associations.

On several occasions, he represented Belgium abroad and he was elected president of the Société Beige de Chirurgie in 1962. He was called to the presidency of the Belgian Orthopedic Association no less than three times. He presided over many a congress in Belgium and in other countries in a smiling good-natured manner, which did not exclude firm action when necessary.

He was as interesting to know and as attractive to meet socially as he was captivating to listen to and fascinating to follow as a scientist. Tact, frankness, modesty, devotion, honesty, indulgence, kindness, I do not know which of these qualities could best be cited as characteristic of the man when describing him, for he was blessed with them all. But, above all, I think that he was naturally of a kind disposition and that, to his relations, his students, his friends, and his colleagues, he was kindness personified. He was kind to his patients, his friends, his assistants, his colleagues, and immensely so toward his family. Better still, when somebody hurt him, he did not show his distress but confided in some close friend. This was in keeping with his honest and indulgent outlook on life and he always sought attenuating circumstances that could and, indeed, would lead to forgiveness. Even during a difficult operation, he never chided a clumsy assistant. Instead, almost embarrassed, he would say "I do not think that I would have set about it that way." It is not surprising that all his assistants regret the passing of their good master. His various responsibilities involved duties and contacts of every description, but the young surgeon fresh from the university received as kind and as amicable a welcome as the VIP. Both were addressed in a most kindly fashion as "my dear friend." His patients, too, were struck by his immeasurable kindness; countless times those who met him, even briefly, in the course of a consultation, would say to me "How kind this man is." In the meantime, he, himself, would have gone expressing thanks for the opportunity afforded him to study an interesting clinical case. Jean Verbrugge was, indeed, a jolly good fellow.

Another characteristic of the man we mourn was the price he attached to friendship. People of his generation and younger ones can bear witness to this; to entertain his friends, do his best to please them, see to their comfort as a perfect host, render a service, chat with his friends, meet them, tease them in a good-natured fashion, such appeared to be one of his principal aims in life. In fact, how could such a man have anything but friends?

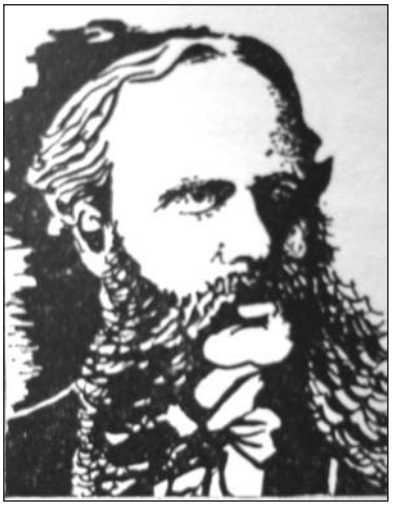
Personally, I can remember a reception he gave his colleagues of the Société Belge de Chirurgie; his attitude was in no way that of a president, stiff and solemn, discharging an obligation toward the members of a society: quite the opposite, in fact, he behaved like a man affectionately surrounded by his kith and kin, receiving his friends and seeing to their welfare. The reception was full of warmth and a total success and, each time he spoke to his guests, he called them his "dear friends," which was, indeed, the term he used when speaking from the platform of a scientific society, since he never could imagine that one could address one's colleagues differently.

His career and his works, which I have recalled, are not sufficient, however, to depict the man of science; the most that one can say is that they enable one to sum up his contribution to science. But the outstanding quality of this teacher was clarity: in a few words, he simplified a problem and a few movements sufficed to turn a surgical operation into something simple. For instance, in a clinical case discussion, he would enumerate five possibilities and, from that

moment, one could be quite certain that there were no more. He then rejected progressively one after another of the four possible solutions and, finally, there remained only one, which his conscience, his common sense, and his experience told him was the best. The future invariably proved him right. Time and again, I have witnessed episodes of this nature. Similarly, at scientific meetings, it was almost a relief to see Jean Verbrugge stand up after a somewhat labored exposé or a heated debate: in a few words, he would stress the principal points, which had either escaped notice or were hardly apparent, and everything became simple and comprehensible. He was outstanding in this field when a young speaker, intimidated by his audience or by ill-natured questioners, showed signs of losing his head. One could be sure that, at this moment, Verbrugge would stand and say "I have been very interested (and this was true) by what my young friend has said. I think that the following four points are important." (One could be certain that there were neither three nor five of them.) "Now would you permit me to make three observations" and, here again, one could be certain that the three observations would clarify the question and rid it of all that was superfluous. Personally, I think that Professor Verbrugge rarely stood up and spoke without teaching me something and I find it hard to visualize our next meetings without him.

On his death, professor Verbrugge left a widow and a 12-year-old daughter. Simone and Simonette Verbrugge mourn the passing of a loving husband and an exemplary father. May the unanimous grief that his death has caused among us all afford them consolation in their bitter loss.

Jean Verbrugge died on January 7, 1964 after a long and painful illness, which he bore with courage and stoicism. He deserves entirely what he himself hoped for in the case of his late master Lambotte: "that he should still live in our minds."



Richard Von VOLKMANN

1830–1889

The whole of Volkmann's life was spent in Halle, Saxony, where his father was professor of anatomy and physiology. He studied at several universities and graduated at the age of 24. Two years later he became deputy professor of surgery and subsequently director.

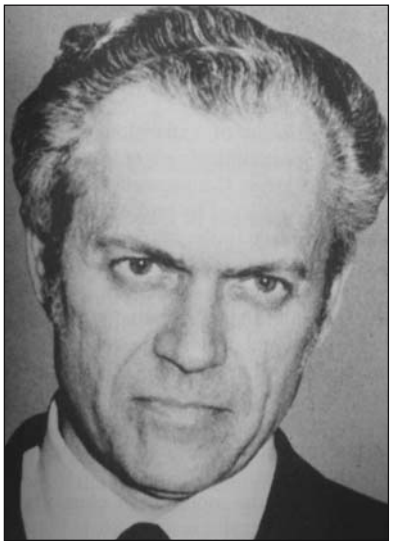
He instituted Lister's antiseptic methods at the hospital; it had previously been subject to so much infection that surgery was almost impossible.

He wrote poems and fairy stories with the pen name Richard Leander, which were very popular, and he also founded a surgical journal.

Henning WALDENSTRÖM

1877–1972

Henning Waldenström was born in Stockholm and began his orthopedic career in the same city. In 1936, he became professor of orthopedics at the Karolinska Institute. He retired in 1942. In 1938, Waldenström suggested that the term orthopedics be changed to orthopedic surgery, which was not immediately accepted. In 1909, Waldenström described a condition of the hip joint in children that he called "the upper tuberculous focus in collum." He pointed out that the process never passed over to the joint and was prevented from doing this by the joint cartilage, which formed an impenetrable cover. The origin of the condition was enigmatic and controversial, and Waldenström suggested the name coxa plana because of the appearance of the capital deformation. "The First Stages of Coxa Plana," read by Waldenström in 1938 to the American Academy of Orthopedic Surgeons, is one of the first accounts of this disease to appear after his dissertation on this subject in 1910. Waldenström became an honorary member of the American Academy of Orthopedic Surgeons, the British Orthopedic Association, the Société Française de Chirurgie Orthopedique et Traumatologique, and the Deutsche Orthopädische Gesellschaft. In 1938, he was Robert Johns' lecturer in London. Waldenström played an important role in the future development of Swedish orthopedics. In testimony to his leadership, all of his disciples were appointed to leading positions in the orthopedic centers of Sweden.



Börje WALLDIUS

1913–

Börje Walldius was born in 1913 in Kristianstad in southern Sweden. After graduating from college in 1932, he attended the medical school at the University of Lund, receiving his medical degree in 1942. His surgical education began at the Southern Hospital in Stockholm. He then moved to the department of orthopedics at the Karolinska Hospital in Stockholm, with which he was associated for 10 years. It was while he was there that he obtained his PhD degree from the Karolinska Institute in 1957.

Dr. Walldius became associated with the department of orthopedics at the St. Gornas Hospital in Stockholm, where he remained active until his retirement in 1978.

The thesis of Dr. Walldius, "Arthroplasty of the Knee Using an Endoprosthesis," is an important document because it is the first report of a group of patients treated with a hinged prosthesis.

Frederick Oldfield WARD

1818–1877

Frederick Oldfield Ward entered the medical school of King's College in October 1833, when he was 15 years of age. His parents resided at that time in Camberwell and his early education had been gained with a Dr. Knox of Tonbridge. His career as a student appears to have been successful enough and we know that he gained a medal in chemistry in 1835 and a silver medal in botany in 1837. While still a student, he wrote *Human Osteology*, which was published in 1838. In the preface he said that his book was the result "partly of researches in the museum and dissecting room, prosecuted at intervals during the last five years: partly of a careful perusal and comparison of the best English and foreign works on the subject," and added that his aim in the work was brevity.

> But holding that true brevity consists not in expressing ideas in a small space but in conveying them in a short time, I have not thought it inconsistent with this design to dilate freely upon some obscure and difficult points which have been passed over in a few lines by previous writers . . . Whatever contradictory statements came under my notice in the course of this comparision were noted down, and made the subject of careful research in several extensive anatomical collections . . . which afforded me the opportunity of comparing nearly two hundred specimens of each bone.

The book is of small dimensions. The pages of the first edition measure only two and three-quarters by four and a half inches, the volume being one and three-quarters inches thick. Though it cannot be said to present the attractions of the modern textbook, its text and illustrations achieve a degree of accuracy and a level of descriptive writing that is seldom encountered today.

No record can be found of ward taking the final qualifying medical examination, but we know that for some years he practiced as a surgeon. His interests extended far beyond the confines of medicine.

He took service as a clerk to Joseph Hume, who introduced him to Edwin Chadwick, both of whom were pioneers of the new medicolegal group of sanitary reformers. Fired with their enthusiasm, Ward wrote at this time a number of popular articles in which he criticized water supply and hygiene and proposed control under one central board of all sanitation in Great Britain.

At this time he also speculated in many small patents and it is said that unsuspecting tradesmen paid dearly for their infringement of forgotten patent rights of his inventions. In 1854, on the recommendation of Lord Palmerston, Ward was appointed commissioner of sewers and evolved a plan for the drainage of London. The theory was acknowledged to be excellent, but was said to be impossible of execution: it was described as the "quart-into pint-pot" plan. Political unrest at this period, combined, maybe, with his advanced and eccentric ideas, caused him to lose his office, though he apparently continued his investigations into the subject of water supply, for in September 1856 he addressed the International Congress of Public Health in Brussels and in the same year prepared the second edition of *Human Osteology*. Two years later, a letter from Ward on purification of the Thames was published by William Coningham, Esq., MP, to whom it had been addressed. Apart from this, nothing is known of his activities for almost 20 years, though Sir John Simons, Medical Officer of Health for London, who had been a fellow student at King's College, mentions in his "Personal Recollections" that before his death Ward suffered "enfeeblement." In 1875, Ward completed the third edition of *Human Osteology*. His mental and physical powers deteriorated to such an extent that he entered St. George's Retreat Lunatic Asylum at Ditchling, near Lewes, and died of general paralysis of the insane on November 15, 1877.

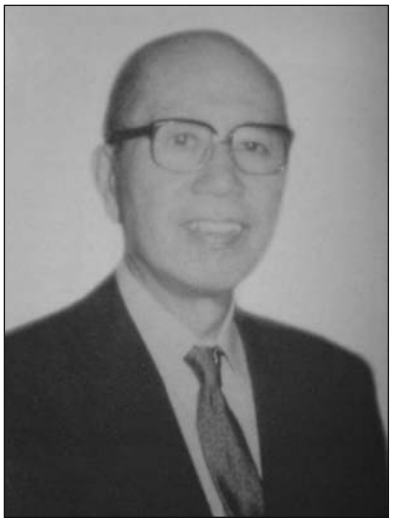
Ward's experiments to show the nature and composition of bone provide interesting conclusions. He studied the elasticity of the clavicle. On page 370 of *Human Osteology*, Ward illustrated the triangle in the neck of the femur with which his name is still associated. A similar area is to be found in the calcaneum.

Ward was particularly interested in the special structure of bone whereby its strength was increased. He made this observation:

> The arrangement of the cancellous tissue in the ends of the femur is very remarkable; and, as it illustrates the general mechanical principles which determine the structure of this tissue throughout the skeleton, it should engage our particular attention. In the lower extremity of the bone, it consists of numerous slender columns, which spring on all sides from the interior surface of the compact cylinder, and descend, converging towards each other, so as to form a series of inverted arches, adapted by their pointed form to sustain concussion or pressure transmitted from below. These converging columns not only meet but decussate

each other; and they are further strengthened by innumerable connecting filaments and laminae, which cross them in all directions, so that no single arch could break without those in its neighbourhood also giving way. Hence, notwithstanding the tenuity and brittleness of each several fibre, the reticular structure possesses great strength as a whole.

Ward's account of the triangle in the neck of the femur attracted little attention for many years, but the introduction of roentgen rays showed clearly that the translucent triangular area was a normal feature of the femoral neck.



Masaki WATANABE

1911–1995

Professor Masaki Watanabe was born in 1911 in Nagano, and after gaining a BS in medicine from Tokyo Imperial University in 1937, he started training in the Department of Orthopedic Surgery at Tokyo Imperial University. He then began his research into arthroscopy under Professor Kenji Takagi. This work was interrupted by the Second World War, but in 1949 Dr. Watanabe became director of the Department of Orthopedic Surgery at Tokyo Teishin Hospital, where he put his heart and soul into the development of arthroscopy and came to be respected as the world's leading exponent of the technique.

In 1960, he developed the Watanabe Type 21 arthroscope, which became the standard instrument around the world for almost two decades, and in 1962, after great effort and research, he succeeded in performing the first arthroscopic meniscectomy. Many of the world's finest surgeons, including Dr. Robert Jackson and Dr. Richard O'Connor, visited Tokyo Teishin Hospital to learn arthroscopy. These surgeons faithfully passed on the teaching of Professor Watanabe to their own trainees.

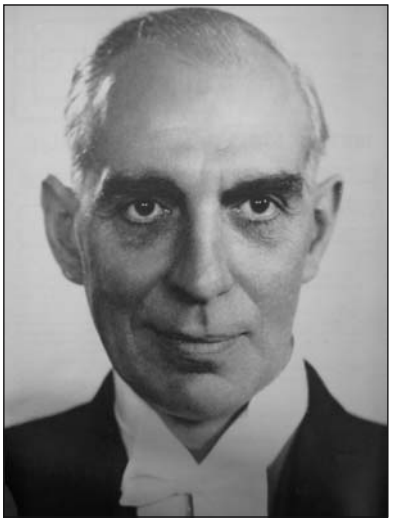
In 1974, Watanabe founded the International Arthroscopy Association (IAA), and was elected its first president. It is strange to recall that one of the purposes of the IAA was to prevent the technique slipping into obscurity as it had done previously in the late 1930s.

In 1975, he was elected the first president of the Japanese Arthroscopy Association. He devoted his whole life to the development of the arthroscope, not only in Japan but also in the world. He received many prizes; in 1983, he was awarded the Asahi Prize, one of the largest scientific awards in Japan, for his unique contributions to the development and improvement of arthroscopy.

I was one of Professor Watanabe's students in 1972 and 1973. At that time he was already trying to develop a small arthroscope, video systems, and arthroscopic surgery. Even in the midst of busy research work, he handled the arthroscope very gently as if treating his beloved grandchild.

Professor Watanabe stated in the preface of the *Atlas of Arthroscopy*, 2nd edition, in 1969, that it would give him great pleasure if arthroscopy were to bring about some progress in orthopedics and rheumatology. Now arthroscopic surgery is worldwide, for many joints. Arthroscopes are indispensable in orthopedics and rheumatology. He could hardly have foreseen that his work would lead to a revolution in the management of joint disorders or that arthroscopy would become one of the most frequently performed orthopedic operations. Professor Watanabe's dedication to arthroscopy placed orthopedic surgery at the forefront of the revolution in minimal access surgery that is now sweeping the world of surgery.

He died on October 15, 1995, of complications after the apparently successful treatment of a femoral neck fracture at Tokyo University and Teikyo University Hospitals. His delightful face, when he talked about arthroscopy in his hospital bed before he died, is an unforgettable memory.



Sir Reginald WATSON-JONES

1902–1972

Reginald Watson-Jones was born on March 4, 1902. He died in London after a short illness on August 9, 1972. With his passing, the surgical world has lost one of its great leaders.

The First World War was a tragic illustration of the fact that injuries can eclipse other causes of deformity. Before the war, Robert Jones himself, in his work as surgeon to the Manchester Ship Canal, had taken the practice of orthopedic surgery beyond the confines of the crippling diseases of childhood into the realm of trauma in adults. After the war, he realized that industrial, domestic and road accidents would increasingly call upon the services of orthopedic surgeons, and the idea of fracture clinics was born. Robert Jones was quick to realize the talent of the young Watson-Jones, and persuaded the Liverpool Royal Infirmary to appoint him as an honorary assistant surgeon in charge of a new orthopedic department and fracture clinic in 1926. Robert Jones made an excuse of asking his protégé to make some researches into the literature in order to "repay" him by arranging a tour of continental orthopedic centers as a grooming and preparation for the young man's new responsibilities.

The department at the Royal Infirmary was soon, like all R.W.-J.'s enterprises, a great success. The official beds were six, but the number of "unofficial" beds in many different wards was always a little uncertain. R.W.-J.'s devotion to the treatment of his hospital patients soon led to a successful private practice, which was the only means of survival in those days when all hospital work was unpaid.

R.W.-J, gained the MChOrth degree in Liverpool in 1926 and was awarded the gold medal. He became FRCS (England) in 1927 at the age of 25. In 1928, he was appointed to the Country Orthopedic Hospital at Gobowen, later to become the Robert Jones and Agnes Hunt Orthopedic Hospital, and also held an honorary appointment at the North Wales Sanatorium, where there were at that time many cases of orthopedic tuberculosis. In 1936, R.W.-J. hit upon the idea of an instructional course on fractures. This was held at Liverpool Royal Infirmary. It was oversubscribed and many of those who attended were his equals or elders, which was a great tribute to a young man in his early thirties. However, it must be remembered that he had by then become well known nationally and internationally for his contributions to the literature. The success of the fracture course prompted his admirers to urge him to write a textbook on the treatment of fractures, and this led him to the first of his three great achievements.

My first encounter with Watson-Jones was as a medical student. My father was medical officer of health for the County of Denbigh. Orthopedic clinics were held within the ambit of Gobowen at different centers, including Wrexham, my father's headquarters. I can remember vividly now, 45 years later, the compelling personality of R.W.-J. and his eagerness to enlist a new disciple to orthopedics. It now seems to have been inevitable that I should later have become his registrar, and then his assistant and successor at the Royal Infirmary. What great times they were in those happy days of the 1930s in Liverpool! The great man had a Packard limousine, a chauffeur, a butler, a personal secretary and assistant; two radiographers and two physiotherapists. A working day started at 6.30 a.m. with three or four private operations at the nursing home at Number 1, Gambler Terrace; then a morning of patients at 88 Rodney Street; in the afternoon a hospital clinic or operating session; back to Rodney Street for the paper work, and letters to doctors; and then home for a dinner party and bridge.

And so to the book, now irreverently and affectionately known as the "Bible." At 88 Rodney Street there was, and still is, a top flat. There, R.W.-J. surrounded himself with the books of reference and all the things he needed for the task of writing what has become, and may long continue to be, the classic fracture textbook. Passing late at

night or in the small hours, one could see the light in the flat. R.W.-J. was at work. This was the beginning of a lifelong habit of working by night as well as by day. The day was not long enough. *Fractures and Joint Injuries* was first published in January 1940, reprinted 15 times, translated into many languages and famous the world over.

R.W.-J.'s approach to surgery was always that of an idealist, and this is reflected in the style of his book. In his philosophy, the ideal treatment of a fracture or injury would lead to the best possible result, and any other form of treatment that did not fall into line with the so-called principles of fracture management was bound to result in some degree of failure, and perhaps in disaster. It was not a humble approach, but it worked, and in any event he was a realist in his actual treatment of patients; no one could have been more commonsensical and ready to throw so-called principles overboard as soon as they became inconvenient. Woe betide anyone who did not "immobilize the joint above and below" in fractures of the tibia and the forearm, but when it became inconvenient to immobilize the hip in fractures of the femur, or the shoulder in fractures of the humerus, the principle was easily set aside.

It was a joy to work with him. His enthusiasm was highly infectious. He had enormous vitality, not only in his working hours but also for any light-hearted activities that might follow the day's work. He was completely devoid of "side." He would listen with the same earnest attention to an idea propounded by a student as he would to a fellow consultant's suggestion. Because of this, and because of his gentleness and kindness, he inspired tremendous loyalty in his juniors. If he had to reprove or criticize a junior colleague on a matter of treatment, the victim would be led to one side and dealt with gently. The rebuke was never public. I have never known him speak ill of anyone.

In the early part of the Second World War, Watson-Jones was appointed civilian consultant in orthopedic surgery to the Royal Air Force. Thus, close on the heels of the success of the book, came his devoted service to the treatment of the injured airman, which continued throughout the war, and after. His position in relation to the RAF was similar to Robert Jones' position in the army in the First World War. Like Sir Robert, Reg inspired and trained the young surgeons who were later to become leading orthopedic consultants in civilian practice, so that apart from the influence of his book, and of his many contributions to the literature, he played a big part in the personal training of young consultants.

In 1943, he became a member of the Council of the Royal College of Surgeons of England and he served in this capacity until 1959. He was vice president of the College from 1952 to 1954. He was member of the Court of Examiners from 1958 to 1962.

In the latter part of the war, Watson-Jones was appointed director of the orthopedic and accident department of the London Hospital, and was joined in this new venture by Osmond-Clarke.

The British *Journal of Bone and Joint Surgery* was first published in 1948. Although others on both sides of the Atlantic took a prominent share in the launching of the new enterprise, there can be little doubt that it was Watson-Jones' enthusiasm and drive that made certain that the idea everyone had approved for many years should be put into practice. Watson-Jones was the editor from the time of the first number until his death and, especially in the early years of the journal, a great deal of its success was due to the countless hours of hard work he put into his job as editor. He was no figurehead; he was the working editor and, in collaboration with Charles Macmillan of the Edinburgh publishers E. & S. Livingstone, he set a high standard of content and presentation, which has been maintained over the years.

In 1952, the British Orthopedic Association, under the presidency of Watson-Jones, met in London for a combined meeting with America and the Commonwealth. Again, his remarkable flair for organization made a grand success of the whole crowded week. It was inaugurated at the Senate House of the University of London by the Queen Mother, who was fulfilling her first public engagement after the death of King George VI.

Watson-Jones was knighted in 1945 in recognition of his services to orthopedic surgery and in particular for his work in the Royal Air Force. He was the Sir Arthur Sims Commonwealth Traveling Professor, visiting Africa, Australia and New Zealand in 1950. Many honors, too numerous to mention, came his way. His appointments to the Royal Family included those of extra orthopedic surgeon to the Queen, and from 1946 to 1952 orthopedic surgeon to King George VI.

In 1930, Watson-Jones married Miss Muriel Cook, who died in 1970. They had a son and a daughter. In 1971, he married Miss Wallace Robertson.

Sir Reginald and the Journal

Reginald Watson-Jones created the British section of *The Journal of Bone and Joint Surgery*. At a time when the fragmentation of the Second World War was being painfully but energetically overcome, there seemed to be a real need for a new journal devoted to orthopedics and accident surgery. The task of editor would clearly be formidable; equally clearly the man to undertake it, if he would, was R.W.-J. His literary talent had been established by his splendid book: his administrative skill had been amply displayed in both peace and war. Fortunately he agreed and we reap the harvest of his labors—given freely for a quarter of a century.

To this task, as to all else, he brought a seemingly tireless energy and a superb intellect. His methods were always his own, and they revealed his rich personality. Like his patron saint Robert Jones, he had a warm regard for his fellow men and the art of discovering latent merit. Thus he found collaborators whom he imbued with his own enthusiasm and loyalty.

Perhaps the most original and inspired part of the achievement was the close link forged with the Americans' long-established *Journal of Bone and Joint Surgery*, already the official organ of both the American and the British associations. That unique and happy symbiosis was the fruit of collaboration with such men as William Rogers and R.I. Harris; it was characteristic of R.W.-J.s imaginative mind and broad vision. From these beginnings there has emerged an international journal belonging in spirit to every country where English is spoken. This is how R.W.-J. liked to think of it.

He had an outstanding affection for the English language, of which he himself was so fine a master. His own writings had not only the essential virtues of clarity, simplicity, precision and brevity, but displayed also a splendid style of his own, always recognizable, exciting, stimulating and persuasive. His speaking was much akin to his writing, but he recognized the necessary distinction between literature and oratory.

A leader and not an autocrat, he was always approachable and he respected opinion from the humblest source. His complex but warm character was completely devoid of pomposity. It was always a joy to attend laborious editorial meetings enlivened by his sparkling personality and penetrating assessments. In his judgment of papers, as of men, he was prompt to perceive any merit and equally prompt to detect the pretentious.

Sir Reginald and the Royal Air Force

Watson-Jones was appointed civilian consultant in orthopedic surgery to the Royal Air Force early in the 1939–1945 war. He quite quickly and with his usual enthusiasm, energy and power of persuasion had convinced the new and very progressive Director-General of Medical Services, Air Vice-Marshal (later Air Marshal Sir Harold) Whittingham what was required to produce a competent orthopedic-rehabilitation service for the RAF. Ten orthopedic units of 100–150 beds each were established in strategically placed Royal Air Force hospitals, each unit consisting of a team of three surgeons, nurses, secretaries, clinical photographers and rehabilitation orderlies. These units were backed up by residential rehabilitation centers working in the closest harmony with the hospitals and, like the hospitals, visited monthly by Watson-Jones or myself. Later, similar units were established overseas. Every single member of these teams, both in the hospitals and in the rehabilitation centers, had to make at least two contributions—the exercise of professional skill, and the exercise of a cheerful confident personality, which so inculcated the "will to get well" that a mood of apathy was never allowed to develop. These were of course the characteristics so typical of R.W.-J. himself, who found it came easily to him, a man of exceptional panache.

On a morning early in January 1941, Watson-Jones telephoned me, urging that I should join him and followed with a letter asking me to think and think quickly and ending with a sentence so typical of him: "I know that you will think this offer over carefully! I hope you will not turn it down lightly, not only because of the importance of the appointment, but also because of the opportunity it will afford of doing something for 'those few to whom so many owe so much'"—Sir Winston Churchill's wonderful description of what the free world owed to the RAF fighter pilots of the Battle of Britain. Thus I joined him in this remarkable wartime experience, which even now I look back on as the finest orthopedic–rehabilitation accident service I have ever worked in. By mutual agreement we decided that I should go into uniform and conform to the pattern of

service life and make the bullets, which, as a civilian, he could fire without being held up by "the usual channels'." He enjoyed direct access to the Minister for Air, Sir Archibald Sinclair (later Lord Thurso), and this was certainly a great advantage in avoiding "red tape" and getting things done promptly.

Just before the war, it had been rumored that the Air Council had considered that any pilot or other member of air-crew injured in battle could not engage in combat again. What a tragedy this would have been, especially in the year after the fall of France when we were "going it alone." As the result of R.W.-J.'s vision and organizational capacity, the orthopedic–rehabilitation service returned 77% of injured personnel to full duty—flying and other trades; 18% were retrained or returned to modified duties in the service, and only 4.8% were invalided. For this magnificent achievement he was knighted in 1945. Before the war ended, he had persuaded friendly financiers to buy Headley Court for the Royal Air Force, and it remains to this day one of the finest rehabilitation units in the world.

During the war he organized with the Dean of the Postgraduate Hospital at Hammersmith two courses every year of lectures of 1 week each, covering the whole of fractures, for medical officers of the Allied Armed Forces. These we gave together—lectures in the mornings and practical classes in the afternoons, in which everyone had to apply plaster-of-Paris casts, Tobruk splints and other conservative treatments, on enthusiastic local schoolboys or boy scouts. At the end of the week, R.W.-J. would summarize the week's lectures in 5 minutes precisely—a superb tour-de-force, which always received a standing ovation.

In 1943, he was invited by the London Hospital to organize an orthopedic and accident department and become its director. To this he brought the same qualities of drive, enthusiasm and competence. When I left the Royal Air Force in 1946, he insisted on my applying for a consultant post at the London Hospital, and so I joined him there in 1947. With our colleagues, Mr. O. Vaughan-Jackson and Mr. W. Alexander Law, a superb department was built up much along the RAF lines, in which the four of us worked in great happiness and rapport until he and I retired from the National Health Service within a year or two of each other.

He was a wonderful colleague, inspiring and dedicated to the task of the present; I always envied him his ability to put affairs of the past behind him. For these he had done his best and, as always, they were highly successful and self-perpetuating. A new task demanded his dedicated attention.

Sir Reginald and Oswestry

My first contact with Reginald Watson-Jones, like that of many other Liverpool undergraduates, was in the unique plaster session he conducted in the basement of the old medical school, but it was as his house surgeon in the Royal Infirmary in 1940 that a working association began, which was to last 32 years. R.W.-J., at that time aged 38, was already nearing the height of his career. His dynamic enthusiasm infected his residents, and my recollections of this impressionable period were of putting on spinal jackets for fractured spines at three o'clock in the morning, of a theater sister gladly giving up her evening off to take a list that should have begun that morning, and of immaculate plasters put on by the master. In the winter of 1940, during the Liverpool "blitz," R.W.-J. persuaded the late H.C.W. Nutthall to exchange his week on night call. The hospital was struck three times one night, and I remember vividly a tall, striding figure in his element organizing, directing and operating in the emergency basement theater.

Of the following 5 years in the orthopedic service of the Royal Air Force, what still stands out clearly in my memory was the meticulous care with which he prepared a meeting of the Royal Society of Medicine at Ely in 1942. Each contributor received a personal letter with detailed instructions on presentation. Each paper had to be word perfect, we were to speak to the back row, adhere strictly to the time allocated, and have illustrations of the highest standard. Such attention to detail characterized so much of what he did.

In June 1928, R.W.-J. was elected the first consultant orthopedic surgeon to the Wrexham War Memorial Hospital, and it was typical that his acceptance was conditional on the allocation of one of the local practitioners exclusively to the management of fractures. In the same year he joined the consultant staff of the Shropshire Orthopedic Hospital at Oswestry, where he became the chief of the North Wales firm. I succeeded him in both these commitments. After-

care clinics held in chapels, schools and cottage hospitals throughout North Wales took him far afield. He enjoyed recalling that on one of these visits to Blaenau Ffestiniog, he ran into and killed a horse: it was an insignificant cob that crossed the road that day without looking both ways, but by the end of the litigation that followed it had become a most valuable racehorse.

His close association with Oswestry continued right up to the end. His powerful teaching was often uncompromising and strongly held beliefs were always communicated with conviction; he believed passionately. Many a young Oswestrian suffered painful knuckles in the process of learning the "no-touch" technique. The word "functional" rarely entered his vocabulary. Less widely accepted beliefs were his obsessions about ankylosing spondylitis, physiotherapy and the value of crooked and elongated heels in the treatment of genu valgum. He deplored shoddiness in work, incomplete immobilization, plasters in equinus or the use of abbreviations in case notes. His dark, penetrating, alert eyes and warm personality proclaimed the message, whether it was his philosophy of fracture treatment to his colleagues or understanding and sympathy to his patients. He listened sympathetically to the views of young residents but towards the end of his career R.W.-J. became less tolerant.

He will be remembered by many an administrator and some of his senior colleagues for his midnight telephone calls, by nurses and doctors of all ranks alike for his identification with the social life of the hospital. He introduced many of the established traditions of the Oswestry doctors' mess, notably "Roll the Red," a peculiar game later to become known as Oswestry billiards, and champagne breakfasts on Christmas morning. The sound of music was often to be heard in the early hours of the Welsh weekend, and a grand piano and an electric organ in the doctors' residency are a permanent reminder of his generosity.

It would be foolish to pretend that in later years some of his unpredictabilities were not embarrassing, but there was something other than the reputation of a great surgeon, something indefinable and personal that always commanded the utmost loyalty. When ultimately the time for retirement arrived in March 1967, he refused to admit it and nobody dared to refer to his retirement party other than as his birthday. He loved Oswestry dearly, and his last clinical activity was with his colleagues in the Welsh firm, when, in failing health, he journeyed to the Eryri Hospital at Caernarvon. All of us who were there will remember how keen and sharp his mind was, and how clear the message. Later on this occasion he was struck down by his last illness, and it was a privilege to be able to repay a very small part of a long-standing debt. Reggie died young: we could not imagine him dying old.

Sir Reginald first came to Oswestry in 1928 as assistant surgeon to David Macrae Aitken, barely 4 years after qualification, having already established his reputation in Liverpool as a young surgeon of outstanding ability. From the outset, he fell in love with "The Orthopedic" and this was returned in no small measure over the years. He loved the Welsh border county. Indeed it was in a small cottage in Shropshire that he took refuge while preparing his epic book. His old friend, John Menzies, recalls those mammoth writing sessions interspersed with bridge, music and asparagus.

Wattie J., Reggie or R.W.-J., as he was variously known, soon settled into the Oswestry scene. In the late 1920s he pioneered the peripheral clinics in Wrexham and North Wales in the best traditions of Robert Jones, and attended Llangwyfan Hospital in the Vale of Clydd with the late Arthur Rocyn Jones, at a time when bone and joint tuberculosis was rife in the Welsh countryside. He became a household name: his friendliness to patients of all ranks, his love of children and his personal magnetism proved irresistable to his Celtic patients. They adored him, as did all grades of staff in the hospital community.

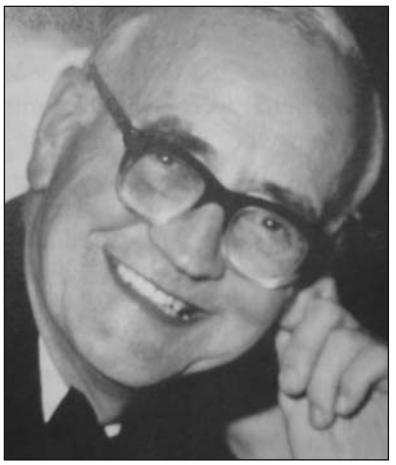
Those of us privileged to have worked with him will not forget his marathon ward rounds extending deep into the night—an indication of his prodigious vitality and his peculiar facility to command unstinting loyalty. Generations of young orthopedic surgeons trained at Oswestry will especially recall the traditional Friday conferences when he would listen to the views of the most humble but, if the occasion arose, would do battle with his colleagues almost to the point of intolerance.

Even when his international interests were legion, Oswestry remained his spiritual home. As senior surgeon, his advice and support were freely available, locally and in high places. He acted as senior adviser in postgraduate studies for some years and was instrumental, with others, in founding the Charles Salt Research Institute. In 1952

he was elected founder president of the Old Oswestrians Club and delivered the Gold Medal lecture in 1970. He faithfully supported the hospital League of Friends from its inception in 1961, and his radio appeal for funds in 1964 will be remembered as a masterpiece of oratory and cajolery. He retired from the active staff in 1967 but continued to visit us as an emeritus consultant until the end.

Sir Reginald was, above all, essentially "human" and like all great men was an alchemy of strength and weakness—a perfectionist and a romantic. Throughout his career he never lost the art of joining with youth in fun and games. How greatly he treasured those relaxing musical evenings with his junior colleagues, and his brand of "Oswestry billiards" is now world famous.

So passes a gallant gentleman and friend. It is hard to imagine Oswestry without R.W.-J. In 1940 he wrote to Hugh Owen Thomas and Sir Robert Jones: "They whose work cannot die, whose influence lives after them, whose disciples perpetuate and multiply their gifts to humanity, are truly immortal." This can truly be said of himself.



William WAUGH

1922–1998

William Waugh was born on February 17, 1922 in Dover, where his father was a general practitioner. Both of his parents came from Ulster, but he was brought up in England and educated at Eastbourne College and Pembroke College, Cambridge, although this was during the Second World War when students were few. He won an entrance scholarship to King's College Hospital in London, where he did the clinical part of his medical studies, graduating in 1945 and being awarded the Legg prize in surgery. He subsequently worked as resident medical officer and senior house officer at the same hospital.

In 1947 he married Janet McDowell, whose father was professor of physiology at King's College. They had two daughters.

His surgical career can be divided into three phases. The first was the period of training. He was a surgical registrar at King's College Hospital and then, for 2 years, a surgical specialist in the Royal Air Force, which included 9 months in Aden. After this he took up orthopedic surgery, returning to work at King's and then in Toronto. He obtained his MChir (Cantab) in 1952 and 3 years later moved to Oxford as first assistant to Professor Trueta, where he struck up a lifetime friendship with Jimmy Scott, who was later to become one of the senior orthopedic surgeons in Edinburgh. Connections established in these posts reappeared later. He arranged for orthopedic trainees in the Royal Air Force to spend 2 years at Harlow Wood Orthopaedic Hospital, and later at Nottingham. Mr. Buxton, his chief at Kings' College Hospital, "was involved in the creation of an orthopaedic and rehabilitation service in war-shattered Greece. He arranged for Greek orthopedic surgeons to come to King's and other centres for postgraduate training." William maintained this link and many Greek surgeons trained at Harlow Wood Orthopedic Hospital and in Nottingham and Derby. His work in the academic department of orthopedics at Oxford established his credentials to set up such a unit himself 20 years later.

In 1957 he was appointed consultant orthopedic surgeon at Harlow Wood Orthopaedic Hospital in Nottinghamshire. It had been opened in 1929 through the initiative of Alan Malkin, who became president of the British Orthopedic Association in 1948–1949, by which time Harlow Wood had established a considerable reputation. This was carried forward by William Waugh and his senior colleague Peter Jackson and they became close friends. He said that Jackson had the better clinical brain, but that he (William) was the better writer. They collaborated closely on numerous publications, especially on surgery of the knee and foot. Together they edited a book on *Surgery of the Knee Joint*, published by Chapman and Hall. William was an outstanding teacher; his

lectures appeared informal and even casual, but were carefully prepared. He played an active part in the postgraduate courses at Harlow Wood, which had been started by Peter Jackson. At that time these were the only such courses and were therefore attended at least once by most trainees from all parts of the country.

When William was appointed to the editorial board of *The Journal of Bone and Joint Surgery* in 1970, he felt that he had reached the summit of his orthopedic career. In this he was wrong; there was much more to come. When he and Peter Jackson were over 50 years old they took up knee replacement, a challenge shirked by some of their contemporaries, and became leading authorities in this field.

In 1965 the Pickering Committee recommended that a new medical school should be established in Nottingham, the first in the UK in this century. The first students entered in 1970. At that time, Harlow Wood was completely separate from orthopedics in Nottingham, although its outpatient clinics, staffed by consultants and registrars from Harlow Wood and originally held in a building belonging to the old Cripples' Guild, had been relocated to the Nottingham General Hospital. Jackson and Waugh saw that the balance was changing and in 1970, on the retirement of Noel Birkett, then the senior orthopedic and trauma surgeon in Nottingham, they began trauma sessions in the city.

With the establishment of the medical school, several new consultant posts in orthopedic surgery were created and those appointed feared that they might find themselves in conflict with the older and established consultants. The reverse was true; Waugh and Jackson welcomed them and built up a happy and united team. A new medical school and university hospital were built and formally opened in 1977 by the Queen, who named the whole complex "The Queen's Medical Centre."

It was decided to establish a Chair of Orthopedic and Trauma Surgery in Nottingham and William was appointed. He recalled that "I was invited finally, and accepted with some reservation. I chose the date of April 1, 1977 to start, which somehow seemed appropriate". He was then aged 55 and later described the years that followed as "a long and difficult period for me." Nevertheless, he achieved a great deal.

His first step was to design an undergraduate course, which involved attachment to the departments of orthopedics, rheumatology and accident & emergency for 8 weeks, with a clinical and viva examination at the end. This proved to be one of the best undergraduate courses in orthopedics in the country.

His research activities focused on the outcomes of osteotomy of the tibia and of total knee replacement. With Marjorie Tew, a statistician, he carried out a long-term review of all the knee replacements performed in his unit. Later, they introduced the concept of survivorship analysis for knee replacements, now accepted as one of the best ways of measuring the success of joint replacements generally.

In addition to these heavy clinical and academic commitments, William was a great supporter of the British Orthopedic Association, serving on the executive council and as vice president in 1984. He was a member of the editorial board of the British volume of *The Journal of Bone and Joint Surgery* and was president of the orthopedic section of the Royal Society of Medicine in 1980–1981.

A division of orthopedic and accident surgery had been set up in the Department of Surgery, headed by Professor Jack Hardcastle. Before his retirement, on the advice of orthopedic surgeons throughout the country, William obtained agreement from the University of Nottingham to establish orthopedic and accident surgery as an independent department within the medical school.

He had always intended to retire before the age of 65 years and did so in 1984, when Angus Wallace, who had been a lecturer in the department, succeeded him. The Waughs then moved to the home that they had purchased some years earlier in Wadenhoe, a village in Northamptonshire, and for a few years he taught some sessions in the Department of Anatomy in Leicester University. He enjoyed his retirement enormously and had time for his interests in gardening, photography and architectural history.

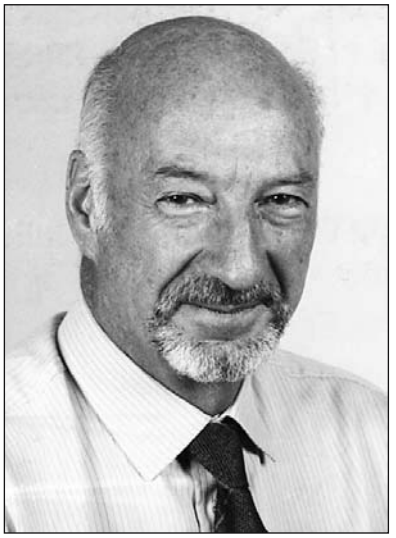
He did not rest on his laurels, but blossomed in a new career as a medical historian. His taste for writing on subjects other than surgery itself had been whetted by an invitation to revise the book *The Whiskies of Scotland*, which had been written by his father-in-law but was then out-of-date. The new edition was published in 1986. It was followed in 1987 by a 200-page book on *The Development of Orthopedics in the Nottingham Area*, including Derby, Leicester and Mansfield. This was published by Nottingham University and we have quoted from it above. He next embarked on

a biography of Sir John Charnley, whom he had known well. It was hard to write an interesting biography of a doctor whose life consisted of encounters with many different people. In this case, however, the development of the hip replacement provided a strong theme for the book, which is subtitled *The Man and the Hip.* It is an illuminating study of the struggles required to achieve this huge advance in surgery. It was published by Springer-Verlag in 1990.

His last book was *A History of the British Orthopedic Association*, which he was invited to write to mark its 75th anniversary. This was an even more difficult subject to organize, but William managed it very successfully, dividing it into periods, in each of which he outlined the progress of the Association and then gave pen-portraits of the successive presidents who were, of course, the leading orthopedic surgeons of their time. It is thus a history, not just of the Association, but of British orthopedics. It was published in 1993 by the British Orthopaedic Association. In recognition of this work, William was made an honorary fellow of the British Orthopaedic Association, a distinction once described by a former president as "far more exclusive than the Presidency."

Even after this he continued to edit papers for the journal *International Orthopedics* until he developed a cerebral lymphoma in 1998. After an illness lasting 2 months, he died on May 21 at the age of 76 years.

Most of us would be proud to establish a reputation either as a distinguished orthopedic surgeon, a professor, or a successful author. To have been all three in turn is remarkable. His colleagues, however, will remember him best for his kindly encouragement and wise advice, which were invaluable to us. He had a stock of useful aphorisms. One of these emerged from a survey, which tried to define the characteristics of the orthopedic surgeon and concluded that he is "a reliable gentleman." William Waugh exemplified this.



Bernhard Georg WEBER (Hardy)

1927–2002

Shortly after his 75th birthday, quite unexpectedly, our dear friend, teacher, and honorary trustee of the AO Foundation, Prof. Bernhard G. Weber, died of heart failure.

Right up to the very end of his life, he was working intensively for patients and in the field of patient-oriented science. As late as the eve of his departure, he was still working on a book dealing with his own AO philosophy, as well as his presentation as the "John Border" memorial lecturer at the Orthopedic Trauma Association in Toronto, in October 2002.

Having completed his medical studies in his home city of Basel, he built up his knowledge in the posts of house physician, seagoing medical officer on an ocean liner and hospital assistant. He adopted his very own idiosyncratic approach to resolving a personal dilemma as to whether he should choose medicine or architecture, therefore, during his period at the Zürich Balgrist Hospital, he recognized in orthopedics the way in which medicine, engineering and craftsmanship, including the artistic side of our occupation (hobby), all fuse together.

When, in 1959, Maurice E. Müller took up his post in St. Gallen as head of the first orthopedics and trauma clinic in Switzerland, Hardy Weber followed him, taking up the post of Oberarzt; or senior surgeon. At that time, St. Gallen was a

Mecca for AO, which was in its infancy and revolutionary in those days. Hardy Weber's ideas enriched those of Maurice E. Müller, a process that intensified after his selection as successor to Müller, in 1967. I, myself, was privileged to become a part of his enthusiasm for innovative ideas (1969–1973). After the founding generation, Hardy Weber was, indeed, the leading exponent of AO, both at home and abroad. There is hardly a single AO surgeon of the older generation who did not visit the St. Gallen Clinic as a guest or as a fellow. Thereafter, Hardy was also "the inspiration" for the AO Technical Commission for many years.

At that stage, many of his ideas were far too revolutionary for the general good, but some of his pupils and guests took them up and carried them forward.

Although the list of publications attributable to Hardy Weber extends to approximately 180 titles, he found that writing articles was, in his own words "an act of self-gratification" and he was far more interested in setting out his practical experiences in well-documented books.

Unfortunately, his books dealing with the classification of malleolar fractures, pseudarthrosis, fractures in children, special osteosyntheses and external fixators are now out of print, yet they are still in demand, since they continue to be relevant and of topical interest.

His great hobby was hip surgery. He developed his own, novel prosthetic hip system, found his way back to metal–metal prostheses and was still receiving accolades for his contributions in May 2002. This, however, was but one of many honors bestowed upon him from all corners of the globe.

In parallel with this, in his teaching, he was taking the Charnley "Greenhouse" technique further towards perfection.

At the end of 1986, much to the surprise of observers, he resigned from his post as Chefarzt at the St. Gallen Clinic. For those in the know, it was clear that the "totally dedicated orthopedic specialist" was finding the increasing administrative burden a handicap. It was the same reasoning that had led him, at an earlier stage, to turn down a possible nomination as a full-time university professor.

Following his retirement, he was able to dedicate himself on a full-time basis to patients in private hospital practice. As the same time, he resigned from the AO and remained officially outside the active organization until he ultimately found his way back in, as a guest speaker among AO courses and committees.

With his "Minimax" slogan, in other words, maximum stability with a minimal approach and metal, he may be regarded as the pioneer of today's minimally invasive techniques. "Back to the Future" was the last paper that I heard him present, one in which he explained how total hip replacement had evolved.

Right at the end, somewhat late in the day, Hardy Weber was elected as an honorary trustee of the AO Foundation at their meeting in Oslo. He was really pleased about this, but he would not have been true to his reputation had he not exploited the opportunity to regale me with his ideas for the future of the AO.

For the benefit of our patients, the full list of his achievements cannot be reproduced here, but we really cannot overlook Hardy, the man. The talented teacher was no patriarch. He shared his private income with his Oberarzt colleagues and he tolerated and supported other people's views and original ideas, provided that they were well-founded. By nature, he was of a happy disposition, but he could really explode when facing unfounded criticism. Sport was his hobby and shared causes helped to create the good working atmosphere at the St. Gallen Hospital. Hardy Weber had many pupils and others who held him in high regard. These are the people who will carry his ideas and techniques forward. Thanks to his widow, Alice, I have the personal task of managing his scientific legacy.

James Renfrew WHITE

1888–1961

Born in Dunedin, the son of Professor David Renfrew White, professor of education at the University of Otago, James studied medicine in the Otago Medical School and graduated MB, ChB, in 1912. He proceeded to England at once, held house appointments in various London hospitals, and took the English Fellowship. His orthopedic career began with his appointment to the resident staff of the Royal National Orthopaedic Hospital.

When the orthopedic services for the imperial forces in Great Britain had become fully organized under the direction of Sir Robert Jones, Renfrew White was trained and eager to enter fully this vast field. He was appointed to the staff of the Military Orthopedic Hospitals at Shepherd's Bush and Tooting. In 1919 he published a monograph, *Chronic Traumatic Osteomyelitis*, a brilliant work. Its concept of the condition and the principles of treatment are completely valid today. The New Zealand Government appointed a group of trained orthopedic surgeons to take charge of wounded members of its expeditionary force who came into this sphere of surgery. James Renfrew White was appointed an orthopedic surgeon to the New Zealand Military Forces with the rank of major. He returned to New Zealand and took charge of the military wards in Dunedin Hospital. Throughout the years he remained known with affection by his patients as "Major White."

In 1920 he was appointed by the Faculty of Medicine of the Otago Medical School as surgical tutor, with an obligation to give 50 demonstrations a year, as directed by the professor of surgery, Sir Louis Barnett. This was the birth of the Department of Orthopedic and Traumatic Surgery in the Otago Medical School and in the Dunedin Public Hospital.

James Renfrew White was a man with boundless energy and enthusiasms, with a diversity of interests—literature, music, education, child welfare, physical education. From 1916 to 1924 he wrote and published many books, papers and articles. A degree of Mastery of Surgery (ChM) was established in the University of New Zealand in 1922. He was the first to take it, that same year.

In the Department of Surgery, Professor Louis Barnett gave up some of his beds to orthopedics when Renfrew White's appointment with the New Zealand Government ended. The New Zealand School of Physiotherapy had been established for some years, but with Renfrew White's appointment it came under his direction, and its present stature owes much to his influence and enthusiasm. His inherited background in education led him to take more and more interest in medical education. He spent a year in the United States, where he was elected a Fellow of the American College of Surgeons.

In 1925 Sir Gordon Bell was appointed to the chair of surgery, succeeding Sir Louis Barnett. He founded a "surgical unit" with the professor and two assistants. James Renfrew White was appointed the assistant in charge of orthopedic cases.

The Department of Orthopedics flourished under his care and guidance; in 1936 he was appointed senior surgeon and the writer assistant surgeon. In the same year all fractures and allied injuries came under his charge, and so the orthopedic and traumatic service of the Otago Medical School and Dunedin Hospital was achieved. During the next decade of rebuilding and extensions to the hospital, modern orthopedic wards and a magnificent physiotherapy school were erected. In the Second World War his staff was depleted and he was called upon to carry on the service with temporary assistants.

When Renfrew White retired from his hospital appointment in 1948, he was a young active "sixty." He continued in private consulting practice for many years, but he now had time to devote himself to his other great interest in life—music. During the years he had composed freely in various forms and had had many compositions performed. Now he took classes in music at the

University of Otago and reached the stage when he could sit for the Mus. Bac. degree—a truly outstanding effort at his age.

He then spent a prolonged visit to England, further exploiting his interest in music. He developed a deep interest in the ancient churches of London and compiled a vast manuscript dealing with their history and origins. On his return to Dunedin in 1961, he was immensely busy preparing it for publication, but this was not to be—he died suddenly after a brief illness.

He was a foundation fellow of the Royal Australasian College of Surgeons. The British Orthopaedic Association honored him by electing him an emeritus fellow and the New Zealand Orthopedic Association its patron.

James Renfrew White was a truly remarkable man, vivacious, erudite and immensely versatile. He more than anyone else was the pioneer and founder of orthopedic and traumatic surgery in New Zealand. By the death of James Renfrew White of Dunedin on December 27, 1961, New Zealand lost the doyen of her orthopedic surgeons.

Royal WHITMAN

1857–1946

Royal Whitman was born in Portland, Maine, on October 24, 1857. He received his degree of Doctor of Medicine from Harvard Medical School in 1882, and for a while he practiced in Boston. He was a charter member of the Tavern Club in Boston. He went to New York in 1889 and became associated with Dr. Virgil P. Gibney, at the Hospital for the Ruptured and Crippled. The association with this hospital continued until 1929, when, after 40 years of continuous service, he retired from both hospital and private practice. He moved to England, where he remained for about 13 years, returning to his own country in 1943.

He died in New York City on August 19, 1946. Three days before his death, he received an invitation to represent the United States, as a guest of the French Government, at a meeting to celebrate the 100th anniversary of the founding of the French Academy of Surgery.

Dr. Whitman was a member of many medical organizations, both in United States and abroad, but he valued most his fellowship in the Royal College of Surgeons, and his membership in the American Orthopedic Association, of which he was president in 1895.

He was an indefatigable worker. He was of the opinion that, in orthopedics, the outpatient department or clinic was an indispensable and integral part of the service. The patients were seen first in the outpatient department and, after their stay in the hospital for operative or nonoperative treatment, returned to it for follow-up care or observation. This unit of service included both indoor and dispensary care. Hence, he, as well as all of his associates, attended the outpatient clinic. The clinic hours ran from one to three in the afternoon, and so prompt was his arrival that watches could be set at one o'clock when he entered the hospital. He had little patience with an assistant who came late or who offered excuses for irregular attendance. In this, as in so many other respects, he set his assistants an excellent example.

Dr. Whitman loved orthopedic surgery and sought continuously and zealously to advance it. To those who saw him and worked with him 4 or 5 days a week, he seemed to be thinking of nothing but orthopedics. During a lull in clinic work in the afternoons, the subject discussed was never art, literature, music, or politics, but always orthopedic surgery, a difficult case for diagnosis, surgical technique, mechanical or surgical principles, or orthopedic literature. Dr. Whitman read extensively and was thoroughly informed on the orthopedic literature in English, French, and German; he expected all of his associates to be equally well informed and up to date, so that dis-

cussions, which were very frequent, would be most fruitful and thought-provoking.

Dr. Whitman was a profound student of orthopedic surgery, a pioneer, and a pathfinder. He was always trying out new procedures, either those he initiated or those suggested by others. He had an insatiable curiosity about the pathogenesis of orthopedic diseases and deformities, and an imagination that led him continuously to seek new methods of manipulative or surgical correction of musculoskeletal defects. He was his own sternest critic and never reported favorably upon any technique or procedure until he himself was thoroughly convinced of its usefulness. When he became convinced of the value of any treatment, he would, through addresses or medical essays, hammer away at the profession until his opinion was accepted.

Despite his intense interest in operative surgery, he never overlooked the opportunities and advantages of manipulative treatment or the manual correction of deformities, of which he was a master. Although short of stature and thin, he many times surprised his young and more vigorous assistants by the rapidity and ease with which he would correct a resistant deformity over which they had labored ineffectually. In the days when the use of great manual force was condoned in the correction of a club foot or the reduction of a congenital dislocation of the hip, he exhibited remarkable dexterity and strength in overcoming manually the resistance of contracted tissues and overcorrecting a deformity.

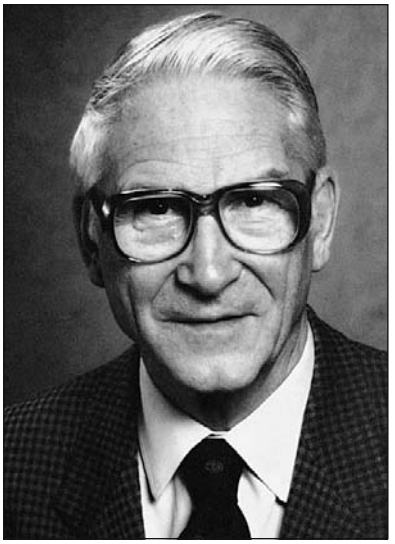
Dr. Whitman was particularly insistent upon a thorough knowledge of mechanical principles, the pathology of deformities, and the observance of these in therapeutics. Braces to him were intended for the support of the trunk or limbs, and not for the correction of deformities. First, an equino varus of the foot, a flexion at the hip or the knee, or a rigid flat foot had to be corrected; then, and only then, might the surgeon apply a brace. Woe to the assistant who did not obey this rule!

Dr. Whitman was truly a master surgeon. He was second to none in speed, dexterity, thoroughness and careful handling of tissues. He religiously avoided undue or excessive trauma, and was ever mindful of the fact that the recovery of tissues operated upon depended directly upon the gentleness with which they were treated. "Treat the tissues lovingly" was the unwritten but ever-present motto of the amphitheater. Two factors contributed outstandingly to Dr. Whitman's case and speed at the operating table. He was an excellent anatomist and, through hints dropped here and there, it was evident that he kept reviewing anatomy; second, on the day before an operation he continuously reviewed what he contemplated doing, and hence he came to the operating table with a definite plan of procedure. He avoided complicated operations, believing that the goal could be attained through simple measures. He always avoided multiple operations at one session, on the basis that the usual orthopedic operation was rarely an emergency procedure, and that the end result would be better if he used several simple separate operations.

He taught orthopedic surgery for 40 years, both at the College of Physicians and Surgeons of Columbia University and at the Hospital for the Ruptured and Crippled. His love for orthopedic surgery made him a most generous teacher, who sought to transmit his experiences and information to whoever showed an interest and would listen. His method of teaching was not always a placid procedure. He often used the difficult, and not always agreeable, method of sarcastic criticism. This at times was vexing. His students, however, soon recognized the light in his eyes and the smile on his lips, and knew that there was no malice in the sarcasm. He meant only to emphasize indelibly some point in observation, diagnosis, or surgical technique. To the less understanding students and visitors, this pedagogic method was disconcerting. Those who knew Dr. Whitman well, however, realized that when he was sarcastic he would teach much.

As an investigator and teacher, Dr. Whitman was undoubtedly one of the great contributors to the advancement of orthopedic surgery in the United States. His textbook on orthopedic surgery is a classic. Dr. Whitman contributed a great many essays on orthopedic problems. These were published in English, but often were translated or abstracted in foreign languages, so that his teachings went to every corner of the world and to all medical circles. Dr. Whitman originated several methods of treatment, which have been universally acknowledged and adopted as classical procedures in orthopedic surgery. He initiated the abduction treatment for fractures of the hip. His insistence on a method that created the opportunity for repair of the fractured hip gave the impetus to extensive clinical research and to the splendid progress that has been made in the early part of Twentieth Century in the management of fractures at the hip. He devised the operation of astragalectomy and backward displacement of the

foot for paralytic calcaneus, an operation that formerly was generally accepted for stabilization of the paralytic calcaneus foot. Dr. Whitman's exhaustive studies on flat or weak feet led to the establishment of a most effective system of treatment, including the use of the Whitman foot brace. His contributions to orthopedic surgery become incalculable when one contemplates the many physicians whom he instructed and inducted into orthopedic surgery.



Hans Robert WILLENEGGER

1910–1998

Hans Willenegger spent his youth in the alpine area near Bern, the city where later he studied medicine. He then trained to become a general surgeon with O. Schürch in Winterthur. When Schürch was elected to the chair of surgery at the University of Basel, H. Willenegger was invited to accompany his teacher, and there he was promoted as a lecturer on the subject of blood transfusions. In 1953 H. Willenegger was appointed as the head of the Kantonsspital Liestal, a district hospital near Basel, where at the time of his election there was, as yet, no specialization. At the beginning, therefore, he was responsible for all somatic patients. During the 10 following years, specialization evolved and, by 1962, he was able to move to a modern hospital building with five individual departments. He proved to be a clinician with an exceptional devotion to his profession and to his patients. He often worked day and night together with his collaborators to care for seriously ill people.

From his students he demanded precision work and dedication to the task in hand. If an unexpected bad result of a treatment happened, all collaborators had to analyze the case together in order to learn the relevant lessons and to find a better solution for the future. It was not usual for his trainees to come in for ready praise and, at times, he exhibited certain eccentricities. When assisting an operation as a teacher, he would ensure that no mistakes were made, and was even known to have tapped an errant student's hand with a clamp. Notwithstanding, Wi—the nickname given to him in the hospital—enjoyed the greatest respect and devotion of all collaborators.

H. Rozetter, the administrative director of the hospital, characterized his work with the following words:

> H. Willenegger has remained the same during his whole career. A medical doctor, who was able to talk to his patients and their relatives in a simple and clear way, in whom all of them had confidence, because they felt there was someone speaking to them who was willing to give his best to cure them of their ills. He represented a person of character, tirelessly fighting against any over-estimation of one's abilities and who accepted only one claim: the one of faithfully following the path of duty.

Hans Willenegger—most frequently called in the Bernese way "Hausi"—held one of the five central positions in the founding committee of the AO in 1958. We do well to focus upon the very personal contribution of H. Willenegger to this institution's evolution. Having to cope with a wide spectrum of traumatology, he realized early the imperfection of the outcome.

He therefore introduced the complete documentation of all osteosyntheses in 1958. With great care he analyzed the published work, dealing with different operative methods to improve fracture outcome, in particular the writings of F. König, for whom he had a great respect and admiration. After coming to recognize, through M.E. Müller, the work of A. Lambotte and R. Danis, he quickly realized that a scientific basis for this impressive technical knowledge was lacking. Thanks to his initiative, links were forged with Straumann, a metallurgical research institute, who helped to solve problems with the implant material. Out of this collaboration arose the industrial production of Synthes implants and

instruments with a scientific background. Parallel to this, H. Willenegger contacted R. Schenk, at that time professor at the Institute of Anatomy in Basel, who contributed histological knowledge to their experimental work in bone healing. The animal experiments that led to their basic publications were carried out in the basement of the hospital in Liestal. Osteotomies of the ulnae of dogs were bridged by compression plate osteosynthesis. This then enabled them to demonstrate direct bone healing based on bone remodeling, starting from the adjacent Haversian systems under stable conditions. Later experiments confirmed osseous healing of hypertrophic pseudarthroses by stabilization using only a compression plate and without bone grafting.

Soon H. Willenegger realized that by performing an osteosynthesis in a suboptimal way, catastrophic complications could be created. Being willing to help such patients, Liestal became a center for the treatment of post-traumatic osteomyelitis, pseudarthrosis and malunion. Because of this experience, H. Willenegger initiated the worldwide teaching of the AO principles, becoming the first president of AO International in 1972. This event marked the starting point for many years of global traveling, teaching AO in all five continents. He differentiated several teaching activities: (1) direct teaching, (2) teaching for teachers, enabling future teachers to continue their work of training locally, and (3) selecting adequate people to profit from an AO fellowship for 1–4 months in an established and recognized AO center, tailored to the needs of the fellow. Countless are the slides that he gave to future AO teachers, carefully and paternally explaining the basic principles underlying each one. B.G. Weber in St. Gallen was supported in his interest in malleolar fractures, and C. Burri in Ulm encouraged in his work on post-traumatic infections. Many others, including the writer of this article, were carefully motivated to work on one of the many problems in traumatology that persisted at that time. As a devoted teacher, he was willing to open new possibilities of development to the recipient of his message, without claiming any rights as an initiator.

Shortly before Christmas in 1998, Hans Willenegger passed away, after months of progressive illness, during which time he was lovingly cared for by his wife and family.

Philip Duncan WILSON

1886–1969

Philip Wilson was born in Columbus, Ohio, on April 3, 1886, the son of Dr. Edward Wilson, a much respected family physician who also held the chair of obstetrics in the Starling Medical School of that city. After a high-school education, Philip entered Harvard College in 1904 and graduated with the degree of AB in 1909. From the College, where he enjoyed those carefree undergraduate years in the first decade of the twentieth century, he moved naturally to the Harvard Medical School. Here he began to show his considerable talents, and as president of his class he graduated MD *cum laude* in 1912. With such qualifications he was a strong candidate for a surgical internship at the Massachusetts General Hospital, a post he held for 2 years.

At that time the residency system had yet to come to Massachusetts General Hospital, although with the arrival of Harvey Cushing in Boston in 1912, this pattern of higher surgical training had been established at the new Peter Bent Brigham Hospital. After leaving the Massachusetts General Hospital, Philip returned to Columbus ready to embark on surgical practice. But with the outbreak of World War I, things began to happen in Boston, and it was not long before he was invited to join the Harvard Unit, then assembling under Harvey Cushing.

The story of the creation of that unit and of its early experiences in France in 1915 at Neuilly, where it was housed in the Lycée Pasteur, is vividly recounted in Harvey Cushing's *A*

Surgeon's Journal. The story is also told in chapters of the unpublished wartime diary of Robert B. Osgood, who was the senior orthopedic surgeon of the group. Among the members of the unit who, with Philip Wilson, were to make surgical history in the years to follow, were Fred Caller (Philip's class mate), Elliot Cutler, and Marius Smith-Petersen.

The months in Neuilly at the American Ambulance were to be a turning point for Philip Wilson; perhaps the one influence above all others that shaped his life. For working at the hospital was a Red Cross nursing aide, Miss Germaine Parfouru-Porel. It did not take long for Philip and Germaine to decide they had been made for each other. At the end of a 3-month tour of duty with the unit, Philip returned to the United States, but was back at Neuilly for a second spell in 1916. On July 6, 1916, Philip and Germaine were married. To this marriage, which was to last for nearly 53 years, Germaine Wilson brought remarkable gifts. As the daughter of Madame Réjane, the great French actress, in her mother's entourage she had enjoyed meeting important personages in many European countries. She had traveled widely, was bilingual, having been educated by English governesses, and was deeply interested in the theater, in music, and in literature. In Philip Wilson, Germaine Porel found a life partner highly responsive to such an ambiance, which was later to be reflected in their three gifted children—Paul Wilson, now a television producer; Philip D. Wilson Jr., who has achieved distinction as an orthopedic surgeon entirely on his own merits; and Marianne Finckel, now a member of the Faculty of Music at Bennington College.

Philip and Germaine Wilson crossed the Atlantic for a brief spell, but were soon back in France, with Philip now a major in the United States Army Medical Corps. In this capacity he served from July 1917 to August 1919, latterly as consultant in charge of amputations to the whole of the American Expeditionary Force. On demobilization, the Wilsons, with their son Paul, born in Paris, found themselves back in Columbus, Ohio. But Philip was now one of the coming young men, and later in 1919 he returned to Boston to join the group headed by Dr. Joel E. Goldthwait and to be appointed to the visiting staff of the Orthopedic Department of the Massachusetts General Hospital, then directed by Dr. Elliot G. Brackett. He was also appointed to the staff of the Robert Brigham Hospital, where in the next few years he perfected two important operative procedures in the surgery of arthritis—posterior capsuloplasty in flexion contracture of the knee and arthroplasty of the elbow joint. In 1921 he became a recognized clinical teacher at Harvard Medical School.

The surgical experiences of the war had extended the field of orthopedic practice both in Great Britain and in the United States to embrace the treatment of recent fractures and dislocations and allied injuries of the locomotor system. At the Massachusetts General Hospital, the surgical revolution took place slowly. A combined fracture service was set up, in which both general and orthopedic surgeons shared the responsibilities. In 1925 a monograph on *Fractures and Dislocations* appeared under the joint authorship of Philip Wilson and W.A. Cochrane. Cochrane, who was to become the first orthopedic surgeon to be appointed to the Edinburgh Royal Infirmary, had worked both with Dr. Goldthwait and in the department at the Massachusetts General Hospital. This textbook enjoyed considerable popularity; it was written in simple and lucid style, and it proved to be a useful book of reference for those working in the emerging fracture services. In the years that followed, the breadth of Philip Wilson's interests is shown in the long list of his contributions to the literature of orthopedic surgery.

On the retirement of Dr. Brackett, Robert Osgood became chief of the orthopedic service, but when elected to the John B. and Buckminster Brown Chair at Harvard, in accordance with tradition, he moved to the Children's Hospital. The gap was filled for a few years only by Nathaniel Allison, who was looking toward Chicago, where a chair was soon to be created for him. The Massachusetts General Hospital was now faced by the choice between two outstanding men already in the orthopedic department—the brilliant virtuoso Marius Smith-Petersen and the gifted all-rounder Philip Wilson. The situation, seen from afar, seemed to many of us to point to the choice of Philip Wilson, but the selectors decided otherwise. Philip was deeply disappointed by their action, but when given the autonomous control of the fracture service, he continued to serve as a loyal member of the department. In 1934 a new career appeared on the horizon. He was invited to become Surgeon-in-Chief at the Hospital for the Ruptured and Crippled in New York. This was indeed a challenge, for the oldest orthopedic hospital in New York was slumbering.

The 21 years of Philip Wilson's tenure of the office of Surgeon-in-Chief were to be years

of remarkable achievements. He reorganized the staffing, changed the name of the hospital, established a medical arthritis service, and persuaded the board of trustees to sell the old hospital on 42nd Street, and build a new hospital on East 70th Street close to the New York Hospital and Cornell Medical School. But this was not all. As Emeritus Surgeon-in-Chief, and still occupied by an extensive private practice, Philip began to look around for philanthropic gifts, and from one generous contribution the Caspary Research Building was built across the street from the main hospital block and completed in 1958.

For some years Philip acted as honorary director of the Research Unit, which now bears the inscription of the Philip D. Wilson Foundation. Truly here is his monument in stone. His powers of statesmanship had never been better displayed than in the negotiations that led to the recognition by the Cornell Medical School of the Hospital for Special Surgery as a teaching unit for undergraduates. For a short time Philip enjoyed the title of clinical professor of orthopedic surgery, and on his statutory retirement was elected emeritus professor. All this was the transformation of his dream into reality. For here was a special hospital giving the highest standards of the care of patients, teaching both undergraduates and postgraduates, and actively engaged in the promotion of research. Before this came to pass, the hospital had already become a famous postgraduate training center for residents. Many of Philip's pupils are to be found among the present-day leaders of orthopedic surgery, not only in North America, but in far distant countries. They are all united in deep affection for their master.

The outbreak of World War II came as an interruption 5 years after the Wilson family had moved to New York. The fall of France and the evacuation of the remains of the British Expeditionary Force from Dunkerque were events of deep concern to Germaine and Philip—both loyal Americans but at the same time good Europeans. And so in September 1940, Philip arrived in the United Kingdom with the vanguard of the American Hospital in Britain, a hospital financed by funds raised in the United States by friends of Great Britain and France. The story of this hospital is recorded in documents now deposited in the library of the Hospital for Special Surgery.

Philip stayed some months in England to see the hospital installed at Park Prewett, Basingstoke, and shared with thousands the early bombings of London. He returned in December 1941 for a further term, the hospital having moved to the new Churchill Hospital at Oxford. Between his tours, Wallace Cole of Minneapolis and Philip's brother Harlan Wilson served in turn as Surgeon-in-Chief. For his contribution to the British wartime hospital services, Philip was awarded an Hon. CBE in 1948. The year before, France had made him a Chevalier of the Legion of Honor.

Throughout his years as Surgeon-in-Chief at the Hospital for Special Surgery and in the years of strenuous activity that followed, Philip served on many public commissions and committees in New York and elsewhere concerned with the social problems of crippling diseases and of health insurance schemes. He was one of the founding fathers of the American Academy of Orthopedic Surgery and was president of this body in 1934. He served a term on the Board of Regents of the American College of Surgeons, firm in his belief that orthopedic surgery should be represented within the unity of surgery.

When the 8th Congress of the Société Internationale de Chirurgie Orthopédique et de Traumatologie was held in New York in 1960, he was the natural choice to be elected president for the 1963 meeting in Vienna. Over the years he became an honorary member of almost every existing foreign orthopedic association and of many societies representing surgery as a whole. Of the many honors bestowed on him in his long professional life, none gave him and his devoted wife more joy than the degree of Docteur Honoris Causa conferred on him at the Sorbonne in November 1966. The fact that his oldest friend in Great Britain, the writer of this memoir, received the same honor on that occasion, gave him added pleasure. The year before (1965), he had been made an honorary fellow of the Royal College of Surgeons of Edinburgh, an appropriate distinction for one who in part at least came of Scottish ancestry.

Throughout his life Philip was punctilious in his attendance at annual meetings of surgical bodies of which he was a member. One meeting that he was loath to miss was that of the American Surgical Society, where his enduring curiosity, and his zest for learning about new ideas and procedures outside the bounds of his own specialty, could be given full play. The meeting of the American Surgical Society in Cincinnati in April 1969 was the last surgical gathering he was to attend. He returned to New York a little tired but inspired by the memory of

a panel discussion on amputations in which he had been invited to speak on his unrivalled experiences in this field. This occasion carried him back to those days in France over half a century ago.

In Great Britain we have long seen Philip Wilson not only as an outstanding surgical leader in the United States, the doyen of orthopedic surgery, but as a world figure. For us he represented the outward symbol of that "special relationship" between the orthopedic surgeons of our two countries, created in the days of war by Sir Robert Jones and nurtured by Robert Osgood. It is appropriate that Boston has been the cradle of this Anglo-American comradeship, which each year gains new strength in the younger generation of orthopedic surgeons through the visits of the Exchange Fellows.

There are many more facets of the life story of this remarkable man, which for the time being must remain unrecorded. He not only worked hard to the very last of his days, but at times he played hard. As skipper of a schooner with the family as crew, the stories of his exploits and adventures are legendary. Philip Wilson was an incomparable host. In this role he was the civilized man par excellence. The memory of the gracious hospitality of Philip and Germaine in the penthouse on 14 East 90th Street, New York, will be cherished by many, young and old.

Philip Duncan Wilson died in New York City on May 6, 1969, in his 84th year. And as we try to see Philip Wilson's life in the whole, of him the words from Tennyson's Ulysses surely ring true—"I am a part of all that I have met."

Julius WOLFF

1836–1902

Julius Wolff was born in West Prussia in 1836 and educated in Berlin at a time when the medical faculty there was one of the best on the Continent. The subject of his thesis for the Doctor of Medicine degree was suggested to him by the professor of surgery, Langenbeck. This work on experimental production of bone in animals began a study of the relationship between the anatomy and function of bone that lasted the rest of his life. So absorbed did he become in the subject that he could talk of little else and earned the sobriquet, "Knochen-Wolff" from his colleagues. After obtaining his medical degree in 1860, he began a general medical practice in Berlin that allowed him ample time to continue with his experiments. He became thoroughly familiar with the work of Hunter, Duhamel, Hailer, Flourens, and others, and repeated experiments on labeling growing bone in animals that were fed diets containing madder.

His experiences as a military surgeon in 1864–1866 led him to give up his general practice and to concentrate on surgery. In spite of his lack of formal training, he became recognized as a competent operator and was appointed privatdocent of surgery at the University of Berlin in 1868. During additional military service in 1870–1871 he was awarded the Iron Cross.

Upon returning to Berlin, he centered his practice around orthopedic and plastic surgery and developed a private orthopedic hospital and clinic. In spite of a busy practice, he continued his

investigations. To further his studies, he perfected a method of making extremely thin sections of bone that permitted examination of its trabecular structure. This technique was not supplanted until after the introduction of x-rays. The results of his investigations were published in numerous works, leading to his promotion to extraordinary professor of surgery at the University of Berlin in 1884.

Previous work on the relationship between the form and function of bones, particularly that of Ward (1838) and Meyer (1867), was well known to him, as was the theoretical stress analysis of the femur by Culmann, a Swiss engineer. Building upon the work of his predecessors and his own data, Wolff collected his conclusions in his important monograph, "Des Gesetz der Transformation der Knochen" (The Law of Bone Transformation) in 1892. This was published under the auspices and at the expense of the Royal Academy of Berlin. In this monograph, what we now know as "Wolff's Law" is stated simply: "Every change in the function of a bone is followed by certain definite changes in internal architecture and external conformation in accordance with mathematical laws." In addition to his experimental work, Wolff as an active clinician made significant contributions to the treatment of club foot. He also took part in the development of treatments for hare lip and nasal deformities.

When the University of Berlin decided to establish a professorial chair in orthopedics and a university orthopedic clinic, it was accomplished by absorbing Wolff's private clinic and appointing him professor and director in 1890. He held this position until his death in 1902.

Iwao YASUDA

1909–

Iwao Yasuda was born in Kyoto, Japan, in 1909. He graduated from Kyoto Prefectural University of Medicine in 1936 and entered the Department of Anatomy of the same medical school and did research on membrane potentials using glass electrodes. Yasuda entered the Department of Surgery of the same medical school and started research on space medicine and electrical stimulation of square wave to organic substance in 1938. His work was interrupted by World War II from 1941 to 1945.

In 1949 he became an associate professor of orthopedic surgery of the Kyoto Prefectural University of Medicine and was awarded the degree of PhD with a thesis on "Streaming Potentials" in 1950. In 1953, he published articles on "Piezoelectricity of Bone" and "Electrical Callus." In 1957 he wrote "On the Piezoelectric Effect of Bone" with Dr. E. Fukada. Yasuda became chief of the Department of Orthopedic Surgery at Kyoto Second Red Cross Hospital in 1960.

In 1973, he was invited to report on "Mechanical and Electrical Callus" at the New York Academy of Sciences, and in 1975 he reported on "Electrical Callus and Callus Formation by Electret" at the 13th meeting of SICOT in Denmark, as well as at the 2nd meeting of the International Congress of Materials in Boston in 1976.

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