



Maud Forrester-Brown (1885-1970), Britain's First Female Orthopaedic Surgeon

John Kirkup

By any standards, Maude Forrester-Brown was a remarkable woman [fig. 1].¹ Not only was she the first female orthopaedic surgeon in Britain – a physically demanding specialism – but, virtually single-handed, she consolidated a series of clinics for crippled children throughout the counties of Somerset, Wiltshire and Dorset. In the process, she elevated the Bath and Wessex Orthopaedic Hospital to national prominence. Her important published research, extending over fifty years, and strong links with distinguished orthopaedic surgeons in Europe and America, ensured she kept abreast of innovations beneficial to her patients.

Born in Enfield, north London on November 15th 1885, the daughter of James Samuel Brown, civil engineer and his wife, Emma Laetitia, she spent part of her childhood in India before attending Bedford High School from 1898 to 1906, where she was remembered as a brilliant and well-balanced scholar. At the age of 20, she applied as M. Forrester Brown (later hyphenated) to the London School of Medicine for Women, and was awarded a scholarship. There she achieved excellent examination results culminating in the London M.B. B.S. with honours in Pathology and Forensic Medicine. Postgraduate courses followed in London and Newcastle upon Tyne. A Gilchrist studentship from London University enabled her to study in Berlin where she took courses in surgical anatomy, and operative gynaecology, and after obstetric experience, she gained an MD (London) in gynaecology in 1914.²

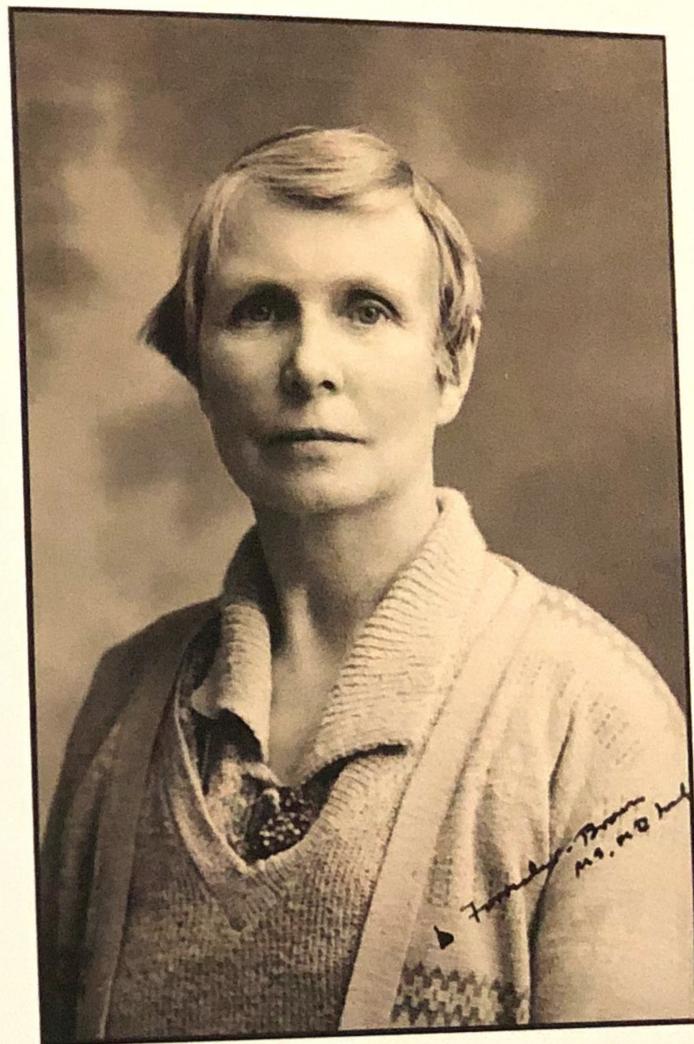


fig 1: Portrait of Maude Forrester-Brown, c.1930s. Signed Photograph.

Bath in Time - Royal United Hospital

Junior clinical experience.

Junior hospital posts were taken up in Dundee, London and Edinburgh, where she was house surgeon to Sir Harold Stiles at the Royal Hospital for Sick Children and Senior Resident at the Royal Infirmary Sheffield. Her stay in Sheffield was cut short in October 1916 and her subsequent career shaped by an invitation from Sir Harold Stiles to join him as orthopaedic resident at the Edinburgh War Hospital, Bangour, where he established a unit treating injuries

sustained by soldiers in the Great War. Sir Harold was a pioneer paediatric surgeon familiar with fractures and dislocations incurred in peacetime. At the War Hospital, he was challenged by complex gunshot wounds, including nerve injuries. With the able assistance of Maud Forrester-Brown, Stiles undertook a special study on the subject which led to their joint publication, *Treatment of Injuries of the Peripheral Spinal Nerves*.³ When Stiles resigned from the War Hospital in 1919, Forrester-Brown was Surgeon to the Edinburgh War Hospital, being responsible for 300 beds with the assistance of the Royal Army Medical Corps officers whom she supervised.

In 1920, she published '*Difficulties in the diagnosis of nerve function*'⁴ and '*The possibilities of end-to-end suture after extensive nerve injuries*'.⁵ In the same year, she also passed the Primary Fellowship Examination of the Royal College of Surgeons of England, and although she never proceeded to the Final Fellowship, she obtained her MS (London) with a thesis entitled: '*The results of operations for peripheral nerve injury*'. Further publications followed in 1921 based

on the experience at Bangour of open fractures complicated by sepsis, demonstrating that her responsibilities had not been restricted to nerve trauma.

After the war, Forrester-Brown worked in Dundee, one of her appointments being Visiting Surgeon to Fairmuir Specialist School. Lectures and further publications followed including '*Sacro-iliac strains*' and '*Some modern methods in the treatment of bone and joint tuberculosis*'.⁶ In June 1923, she was awarded the William Gibson Research Scholarship (exclusive to women doctors) of the Royal Society of Medicine, London, which she held for



fig 2: The Bath, Somerset & Wilts Central Children's Orthopaedic Hospital, Combe Park, Bath c.1927
Bath in Time - Royal United Hospital

three years. The scholarship enabled her to visit orthopaedic clinics in the USA, France, Italy, Scandinavian countries and many centres throughout Britain. Detailed reports of these visits were compiled which described many of the methods and equipment subsequently introduced into her practice in Bath.⁷ She was particularly interested in the appliances and splints used by Vittorio Putti of Bologna and J.E. Goldthwait of Boston, USA, in sunlight methods for bovine tuberculosis used in Switzerland and gymnastic exercises employed in Swedish and Danish hospitals. After her scholarship had finished, she continued with regular visits abroad, spending one vacation every year visiting orthopaedic clinics.

The Bath and Wessex Children's Orthopaedic Hospital.

Until 1924 orthopaedic patients in the West Country were under the care of general practitioners. In-patient treatment was conducted by general surgeons who were interested in what was still an emerging speciality. At Bath an orthopaedic clinic was established in 1922 supervised by two general surgeons, WG Mumford (1870-1955) and JS Levis (1888-1943) of the Royal United Hospital who became the first surgeons to the Children's Orthopaedic Hospital. This was opened officially by the Duke of Connaught in May 1924 with 20 beds [figs. 3 & 4]. Specialist orthopaedic experience was provided by Sir Robert Jones and GR Girdlestone appointed as Honorary Consultant Surgeons. They had been promoting a national scheme of orthopaedic hospitals via the Central Council for Crippled Children. It is probable that they were instrumental in the appointment of Forrester-Brown as Resident Surgeon in 1925.⁸ She lived across the road from the hospital at 22 Combe Park [fig. 5] and later rented rooms in the Circus and Queen Square for private consultations. Forrester-Brown shared the number of beds with Mumford and Lewis and increasingly took charge of the major proportion of them when they increased from the original 20 to 72 beds by 1926. In addition, she had responsibility for a growing number of children's clinics throughout Somerset and Wiltshire: Taunton, Weston-Super-Mare, Bridgwater, Yeovil, Radstock, Frome and Glastonbury, and Corsham, Salisbury, Trowbridge and Swindon.⁹



fig 3: HRH The Duke of Connaught opens the Bath, Somerset & Wilts Central Children's Orthopaedic Hospital, 1924
Bath in Time - Bath Central Library Collection

During 1924 only 51 operations were performed, increasing rapidly to 140 by 1926 and 237 by 1927. Expansion continued with the addition of Dorset to the Hospital's responsibilities and by 1930, Forrester-Brown was designated Visiting Surgeon to Bath, Somerset and Dorset Central Children's Orthopaedic Hospital, and to the Clinics predominantly in Somerset and Dorset. [fig. 6]¹⁰ Former staff recall how she would disappear into Dorset for a week at a time, allegedly on horse back visiting Dorchester, Weymouth, Bridport, Sherborne, Wimborne, and the Red Cross Children's Hospital in Swanage.¹¹ In 1931, the original title was shortened to The Bath and Wessex Children's Orthopaedic Hospital and a special unit of 20 beds for infants was opened. Throughout the three counties, monthly or quarterly visits by surgeons to 14 minor clinics were established with follow-up from after-care sisters and later by orthopaedic physiotherapists.¹² In 1934, Mumford retired followed by Levis in 1935. They were replaced by John Bastow (1906-65), and Forrester-Brown became Senior Surgeon and Visiting Surgeon to

Bath and the Wessex clinics. Although she never dealt with acute traumatic cases, she gradually took increased responsibility for adult orthopaedic cases, especially former children under her care. During 1935 Capt. Ronald Wills provided an annexe to the babies ward in which a remedial pool was housed. Forrester-Brown donated to the new facility and dedicated it to Sir Robert Jones who had died in 1933.¹³

With the outbreak of World War II, the Orthopaedic Hospital was designated as suitable for acute surgical and medical cases under the Emergency Hospital Scheme. Extra beds were used by military personnel in the gymnasium, board room, and out patients' room until 1942 when the requirement ceased. In the meantime, the demand for children's beds intensified and extra accommodation was arranged at South Stoke House, near Bath. During the Baedeker air raids on Bath in 1942, patients were placed under their beds, reported to be 'nearly as robust as Morrison shelters'. Fortunately, the Hospital was only slightly scarred during the raids, and no one was injured despite considerable damage and loss of life inflicted elsewhere in Bath.¹⁴

After the war, the number of Visiting Physicians increased to four and Visiting Anaesthetists to five. Meanwhile Forrester-Brown and John Bastow were attending 21 children's clinics periodically, and performing more operative surgery as emerging antibiotic cover diminished risks and improved cure rates of bone and joint diseases. Ten clinics were

also undertaken by after-care sisters.¹⁵ Robert Robins, appointed House Surgeon in 1947, has vivid memories of Forrester-Brown's operating sessions:

She was a dab hand with a Thomas wrench for relapsed club feet: 'mush it up' was her advice. She never picked up a vessel unless it could be done with Ochsner's forceps and ligated with chromic catgut of her own manufacture. Before closing a hip operation she would empty a galley pot of neat iodine into the wound. She would not allow her patients to have a blood transfusion, even after a Hibbs' fusion for scoliosis ('overlap the bones like "shlates" on a roof') or an arthrodesis of the hip but the



fig 4: HRH The Duke of Connaught opens the Bath, Somerset & Wilts Central Children's Orthopaedic Hospital, 1924

Bath in Time - Bath Central Library Collection

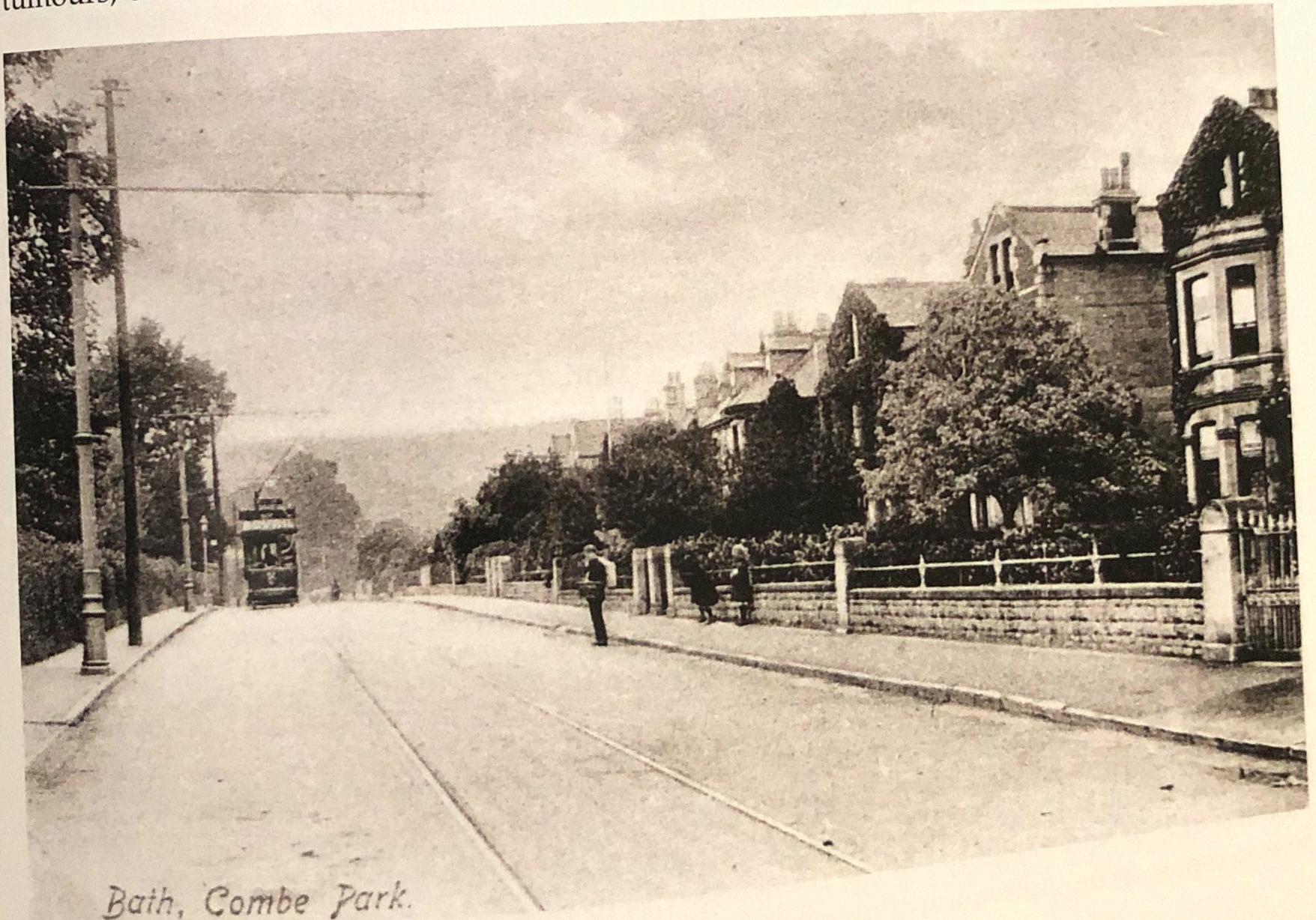
surgeon of today may be unaware of the efficacy of a plaster spica in securing haemostasis and counteracting shock.¹⁶

The passing of the National Health Service Act, and its implementation in July 1948, was coupled with an appeal for supporters to continue subscriptions and donations until the new arrangements were in place. Forrester-Brown was then termed Consultant Orthopaedic Surgeon until her retirement in December 1950 at the age of 65. In retirement she returned to Edinburgh to assist Sir James Learmonth's investigations into the repair of peripheral nerves

and she was a frequent visitor to the Princess Margaret Rose Orthopaedic Hospital, contributing to discussions and ward rounds. In 1954, she worked as a locum in Huddersfield, in Kirkcaldy and other orthopaedic centres. She then went to South Africa as temporary orthopaedic surgeon at the Holy Cross Hospital, East Pondoland in the Transkei, where clinical problems resembled those she had experienced in her early career. Retaining Edinburgh as her base, she continued to travel and to attend meetings and conferences. At a congress of the British Orthopaedic Association, when in her later 70s, the writer recalls one session when she stood up to question, or more often to instruct, practically every speaker.

Clinical experience and further publications.

The annual reports of the hospital are largely concerned with financial matters, but also contain brief statistics of clinic, physiotherapy and dental attendances. These statistics do not separate new cases from readmissions. For example in 1936, when of 82 cases of poliomyelitis admitted, 25 were new ones requiring an average stay of 174 days.¹⁷ Most years, congenital deformities formed the largest diagnostic group followed by surgical tuberculosis and infantile paralysis (poliomyelitis). Rickets remained a lesser problem as late as 1947, surprisingly so for an essentially rural area where children were exposed to sunlight and fresh milk enriched with vitamin D. Osteomyelitis was a significant cause of admissions and spastic paralysis, scoliosis, tumours, old bone and nerve injuries formed an important part of the remainder. Today, by



Bath, Combe Park.

fig 5: Combe Park, Bath c.1910s. Postcard.
Bath in Time - Bath Central Library Collection

contrast, all these conditions produce very few admissions to orthopaedic units in Britain.

Forrester-Brown's experience of congenital skeletal deformities was prodigious. In 1929, she published *Diagnosis and Treatment of Deformities in Infancy and Early Childhood*, with a foreword by Sir Robert Jones.¹⁸ This was aimed to assist early diagnosis by general practitioners and child welfare staff for, as she lamented, too many congenital defects were established and untreated before late referral, often when walking, the child being then considered by the family and practitioner 'strong enough' for treatment. She emphasised the importance of thorough examination with the patient naked except for a 'fig-leaf'.

In 1933, she co-authored *Paralysis in Children* with R.G. Gordon (1889-1950), Neurologist and Physician to the Orthopaedic Hospital.¹⁹ The authors believed they had filled a gap in the

literature by combining neurological and orthopaedic standpoints in order to obtain an accurate diagnosis and enhance surgical management. In 1935, she assessed 152 personal cases of congenital equinovarus (club-foot),²⁰ an experience accumulated over a mere 10 years that dwarfs that of today's surgeons, even many specialising in foot surgery. She emphasised the crucial importance of early and vigorous conservative care and the necessity to intervene surgically when progress was halted. Her paper listed additional appointments as Honorary Surgeon, Eastern Dispensary, Bath and Honorary Consulting Orthopaedic Surgeon, Swanage Red Cross Hospital and Walker-Dunbar Hospital, Bristol. In 1947, she lectured at the Royal College of Surgeons on 'Operative procedures in poliomyelitis' reported in the *Annals* of that year.²¹ It is evident her personal experience of poliomyelitis was formidable and her advice full of common

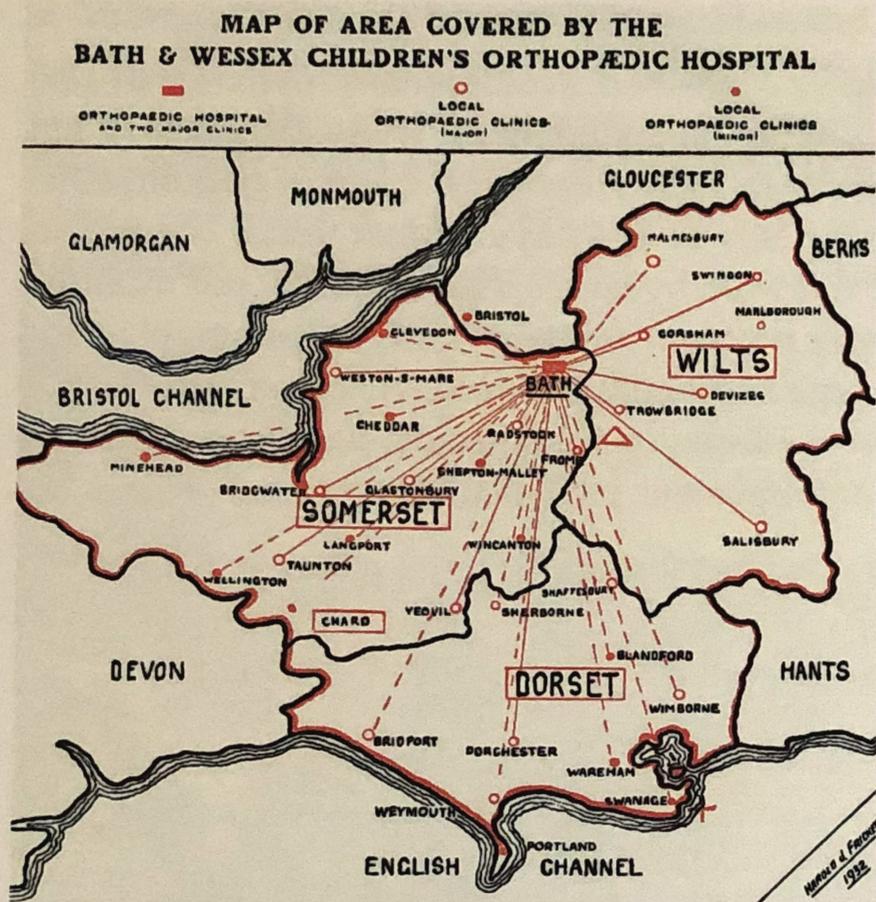


fig 6: Map of are covered by the Bath & Wessex Children's Orthopaedic Hospital, 1932

Author's Collection

sense. Recognition of this and her many other contributions should have led to the award of an Honorary Fellowship of the College but the opportunity was overlooked.

Professional responsibilities and leisure pursuits

Maud Forrester-Brown was an assiduous supporter of professional associations and served as an officer in many of them. A member of the British Medical Association for over fifty years, she was Honorary Secretary of the Section of Orthopaedic Surgery at the Annual Meeting in 1931 and a member of the Association's Physical Education Committee formed in 1935 to report on the cultivation of physical development by the civil population.²² In 1921, she

was elected an active member of the British Orthopaedic Association, joining the Committee of Physical Education in 1936, becoming Hon. Secretary in 1937, an Executive Committee member in 1948-9 and an Emeritus Fellow in 1961. When the B.O.A. held their first visit abroad in 1924, Forrester-Brown was in the party. She was again with the Association in 1956 when meetings were held in Rome, Florence and Bologna, and at further meetings in France and Scandinavia.²³ In addition, she joined SICOT, the International Society for Orthopaedic and Trauma Surgery, later being elected an Emeritus Member, and also the Medical Women's International Association, attending their Ninth Congress in the Philippines in 1963, where she insisted on a personal bed-to-bed tour of patients in the National Orthopaedic Hospital.²⁴

As a result of her friendship with Vittorio Putti, the leading orthopaedic surgeon in Bologna, and her knowledge of Italian, she produced many English summaries for the journal *Chirurgia degli Organi di Movimento*, and translated his book *Historic Artificial Limbs* in 1930. Putti described medieval iron prostheses in the Stibbert Museum, Florence, that were designed for battle field aristocrats on horseback.²⁵ Maud Forrester-Brown was fluent in five languages, including Spanish which she first studied in her sixties, but her interests went beyond foreign languages:

She had a keen interest in all classical forms of drama, sculpture and painting; a wide knowledge of old masters, especially those of the Italian schools; a catholic knowledge of literature. Indeed her retentive memory and critical abilities made discussion of literature with her a formidable task.²⁶

She was also not only keen on healthy physical activity but practiced it herself:

Bodily fitness was not only a sermon to be preached to others; it was a goal to which she strove all her life – by skiing, skating, riding, golf and swimming. She took a vacation each February for winter sports, usually in Norway. Many associates must remember the twinkle in her eyes when she slipped away from a congress session with murmur: 'I have an appointment with a horse.'²⁷

Three years before her death, she was still riding once a week and swimming twice a week in the local baths. Despite this physical activity, she may have suffered from osteoporosis for she sustained at least four fractures after the age of sixty. She had a fracture-dislocation of an ankle in 1947 for which she refused an anaesthetic, insisting on a skin tight plaster which she cut down to a below knee plaster the following day and resumed horse riding with an excellent result.

In November 1948, a local newspaper reported her fall from a horse that caused a fractured collar bone. Then in 1960, she fractured the neck of a femur that was nailed successfully in Edinburgh. This was followed by a convalescent voyage to Cape Town on a ship with a gymnasium and mechanical horse offering suitable exercise for riders. On her return she informed surgeons at Bath how the mechanical horse had speeded her recovery and why she considered this a breakthrough in rehabilitating elderly ladies with hip fractures. She even offered to buy such a machine for the hospital, but was politely persuaded this would be inappropriate, even dangerous, for fragile patients who with few exceptions were unfamiliar with horse riding. Lastly in 1962, she sustained a comminuted fracture of an elbow joint which was reduced and plastered briefly. She insisted on her own rehabilitation, and within two months was swimming and driving her own car. Maud Forrester-Brown lived in Edinburgh after she retired from Bath. She died in the Edinburgh Royal Infirmary on January 12th 1970, aged 84 years after a cerebrovascular accident.

Conclusion.

Maude Forrester-Brown had an impressive career as one of the pioneers of British orthopaedic surgery in the twentieth century; the first female surgeon in Britain, and probably worldwide. Her life was dedicated to an emerging speciality in which she made significant contributions to its science and literature, and she spared no effort to keep in touch with developments at home and abroad. In an age before modern air transport, her international connections sustained over decades were extraordinary, and the fruits of best practice were



fig 7: Present day sign at the Forrester Brown Ward at Bath's Royal United Hospital, 2013

Photograph by Dan Brown

now been published in a volume of the Dictionary of National Biography. Locally, one of the wards at the Royal United Hospital in Bath bears her name [fig. 7], but her achievements deserve a wider recognition. Bath can be proud of her inspirational work, both nationally and in the city.

brought back to her work in Bath. It was principally due to her knowledge, energy and dedication that a vast network of clinics was established throughout three counties for the treatment of neglected crippled children. This great endeavour helped to forge the favourable reputation of the Bath and Wessex Orthopaedic Hospital in treating surgical tuberculosis, congenital deformities, poliomyelitis, rickets, scoliosis and osteomyelitis, at a time when most preventive and therapeutic remedies had yet to materialize. Everyone who remembers her when she was 78 years of age, including the writer, recalls a formidable personality with firm opinions based on prodigious experience, yet a lady who combined compassion with an enquiring mind.

An entry for Maud Forrester-Brown has

Notes

- 1 This is an edited version of an article published in the *Journal of Medical Biography* vol. 16 Nov. 2008, pp. 197-204.
- 2 Examination results of M. Forrester-Brown, Royal Free Archive, London, Royal Free Hospital, School of Medicine for Women, Registry records, School Examinations Record book, 1900-1911. H.J. Stiles, MF Forrester-Brown, *Treatment of Injuries of the Peripheral Spinal Nerves*, (London: Froude, Hodder & Stoughton, 1922).
- 4 M. Forrester-Brown, 'Difficulties in the diagnosis of nerve function', *British Journal of Surgery*, 1920: VII, pp. 495-5011.
- 5 M. Forrester-Brown, 'The possibilities of end-to-end to suture after extensive nerve injuries', *Journal of Orthopaedic Surgery*, 1920: XIX: pp. 277-87.
- 6 M. Forrester-Brown, 'Sacro-iliac strains', *Edinburgh Medical Journal*, 1924; pp. 392-98; 'Some

- modern methods in the treatment of bone and joint tuberculosis', *Forfarshire Medical Association*, January 1925.
- 7 M. Forrester-Brown, 'Reports on William Gibson Research Scholarship, 1924-6 in MS Archives, Royal Society of Medicine, London.
- 8 First Annual Report of the Bath, Somerset and Wiltshire Central Children's Orthopaedic Hospital to 31 Dec. 1924.
- 9 Second Annual Report of the Bath, Somerset and Wiltshire Central Orthopaedic Hospital to 31 March 1926.
- 10 Sixth Annual Report of the Bath, Somerset, Wiltshire and Dorset Central Children's Orthopaedic Hospital to 31 March 1930.
- 11 RHC Robins, 'An Orthopaedic original', *British Orthopaedic News*, Autumn 1992; 6: p.17.
- 12 Seventh Annual Report of the Bath and Wessex Children's Orthopaedic Hospital to 31 March 1931.
- 13 Tenth Annual Report of the Bath and Wessex Children's Orthopaedic Hospital to 31 March 1935.
- 14 Eighteenth Annual Report of the Bath and Wessex Children's Orthopaedic Hospital to 31 March 1943. For further information on the Bath Blitz, see John Penny, 'Nazi Eagles over Bath: An analysis of German air Operations during World War II' and George Scott, 'Firebomb Fiasco: Civil Defence in World War II' in Graham Davis, (ed), *Bath Exposed!: Essays in the Social History of Bath, 1775-1945*, (Sulis Press, 2007).
- 15 22nd Annual Report of the Bath and Wessex Children's Orthopaedic Hospital to 31 March 1947 (final report).
- 16 R.H.C. Robins, 'An Orthopaedic original', *British Orthopaedic News*, Autumn 1992; 6: p.17.
- 17 Eleventh Annual Report of the Bath and Wessex Children's Orthopaedic Hospital to 31 March 1936.
- 18 M.F. Forrester-Brown, *Diagnosis and Treatment of Deformities in Infancy and Early Childhood*, (Oxford, Milford, 1929).
- 19 R.G. Gordon, M.F. Forrester-Brown, *Paralysis in Children*, (Oxford, Milford, 1933).
- 20 M.F. Forrester-Brown, 'The treatment of congenital equinovarus (club-foot)', *Journal of Bone and Joint Surgery*, 1935; 17: pp. 661-70.
- 21 M.F. Forrester-Brown, 'Operative procedures in poliomyelitis', *Annals of the Royal College of Surgeons of England*, 1947; 1:pp. 204-18.
- 22 R.I. Stirling, 'Obituary of Maud Frances Forrester-Brown', *Journal of Bone and Joint Surgery*, 1970; 52B: pp. 578-9.
- 23 British Orthopaedic Association, Minute book in MS, 1921; Annual Reports, 1937, 1949 and 1961.
- 24 R.I. Stirling, 'Obituary of Maud Frances Forrester-Brown'.
- 25 V. Putti, *Historic Artificial Limbs*, trans. M Forrester-Brown, (New York, Hoeber, 1930).
- 26 R.I. Stirling, 'Obituary of Maud Forrester-Brown'.
- 27 R.I. Stirling, 'Obituary of Maud Forrester-Brown'.