A History of the Society of British Neurological Surgeons

1926 to circa 1990

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Society Archivist

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Foreword

The Society has published several small booklets of its constitution and by-laws since its foundation in 1926. These booklets also contained the names and addresses of members, a list of meetings held by the Society and a short history of the Society, initially by Sir Geoffrey Jefferson and later by Joe Pennybacker, last updated with a small postscript in 1981. In 1998 the constitution and by-laws only were published. Over the past 35 years there has been no update of the Society's history.

This history by Tom King (the London Hospital 1967–1995 and Society Archivist 1995–2008) is a timely updated history of the Society to the early 1990s. This complements his excellent publication of the *Origins of the SBNS* in 2006, which is available on the Society website (www.sbns.org.uk). The Society became a private limited company in 2006 and a registered charity in 2007. The memorandum and articles, as well as the constitution (2005) are available on the Society website – far too dry to be included in an entertaining publication such as this.

The list of members has become far too large to include. The list and numbering of meetings is current and finally clarified and a list of past office bearers is included.

The Society is indebted to Tom King for all his hard work as archivist and for the production of this fine history.

PTvH, 2016

1
The Founding of the Society

The Society of British Neurological Surgeons, founded in 1926, is the second-oldest neurosurgical society in the world after The Society of Neurological Surgeons in America, which dates from 1920. The first account of its origin and history is contained in the *Notes on History of the Society*[1] by Geoffrey Jefferson, which appeared in the 1956 version of the society's handbook. (Later handbooks contained an account by J Pennybacker. Additional material was added by P Clarke covering 1976–1980 and AE Richardson for 1980–1984. JM Potter has also written a more extended and recent history.[2])

Discussions had taken place between Jefferson, Sir Charles Ballance, Percy Sargent, Wilfred Trotter, Louis Bathe Rawling, Donald Armour, James Learmonth and Norman Dott, "all of whom had favoured the formation of a neurological surgical group, something that would be as much a small scientific club as a formal Society". Jefferson had been encouraged in this by Harvey Cushing.

The Society was created at a meeting and dinner at the Athenaeum Club, London, given by Ballance on Thursday 2 December 1926. Jefferson remarks that the dinner was attended by seventeen people including "the five already mentioned" though he had, in fact, mentioned seven, apart from himself. Five guests were present: Sir David Ferrier, Sir Grafton Elliot Smith, Sir Edward

Sharpey-Schafer, Sir Arthur Keith and Dr AW Ballance, Sir Charles's son, who took no further part in the Society. Sir Charles Sherrington had also been invited but was unable to attend and he and the first four were appointed honorary members. The remainder, numbering twelve, all of whom became founding members, were Ballance, Jefferson, Percy Sargent, Henry Souttar, Adams McConnell, James Learmonth, Blundell Bankart, Lennox Broster, Lancelot Bromley, Wilfred Trotter, Bathe Rawling and Donald Armour. It appears that Norman Dott was elected to the membership on this occasion; perhaps this was done because he did not attend the dinner. Archibald Young, the fourteenth founding member, was unable to attend the dinner or the subsequent meeting. Though Jefferson gives seventeen as the number attending, in fact this was nineteen when guests and Dr A Ballance are included.

Ballance was elected President (he relinquished this in 1927 to become Honorary President, a position which he held till his death in 1935, after which it disappeared). Jefferson became the first Secretary, remaining in that post until 1952. He was twice the President (1934–1936 and 1954–1956) and during his first term he continued as Secretary.

Bromley was Treasurer and the Committee comprised Trotter and Sargent.

Founding Members

Geoffrey Jefferson[3] (1886–1961) was the son of a general practitioner. After qualifying in medicine with a London MB, he was for a time a demonstrator in anatomy at Manchester under Grafton Elliot Smith, an appointment that initiated his interest in the nervous system. After a spell in Canada as a general practitioner and surgeon during the early part of World War I, he returned to England in 1916, spent some time in the Anglo-Russian Hospital in St Petersburg and was then, till the end of the war, in a military general hospital in France where head and spinal wounds, as well as other types, were under his care. He visited

Geoffrey Jefferson

the Harvard neurosurgical unit in France but failed to meet Cushing there, as Cushing was suffering from polyneuritis at the time.

After the war he was appointed general surgeon to the Salford Royal Infirmary in 1919. In 1924 he visited Cushing in Boston and remained on close terms with him till Cushing died in 1939. In 1926 he was appointed, at his second attempt, Honorary Neurological Surgeon to the Manchester Royal Infirmary. The degree to which the society depended on him is evidenced by the duration of his secretaryship, a position he continued to hold during his first period as President from 1934 to 1936. He visited Queen Square fortnightly in the 1930s, arriving on Wednesday evening at Euston, having dinner at the Euston Hotel, examining the patient or patients chosen for surgery until midnight and operating on Thursday before returning to Manchester in the evening.

His writings and conversations were original, thought-provoking and witty, covering, among other things, clinical matters exercising contemporary thought, for instance intracranial aneurysms (as expanding lesions mainly, rather than as a cause of subarachnoid haemorrhage), invasive pituitary tumours, and the mechanism and effects of tentorial herniation. He also wrote extensively on philosophical or physiological matters: consciousness, Descartes' view on the localisation of the soul, and the development of the idea of localisation of function in the brain. There was also a series of historical biographies. All were written in an unusually attractive style and showed deep knowledge, extending well beyond medicine or purely neurological matters.

He was made a Fellow of the Royal Society in 1947 and knighted in 1950.

Sir Charles Ballance (1856–1936), had been educated in England and Germany and been appointed assistant aural surgeon to St Thomas' Hospital in 1885. His address to the embryonic Society given at the dinner was published in the *British Medical Journal* as *The Society of British Neurological Surgeons Remarks and Reminiscences*.[4] In it he described his early experiences on the continent and in England and his encounters with famous people. His experience predated aseptic surgery. He had known Lister, met Koch and Pasteur and had studied bacteriology in the University of Leipzig under Koch's chief assistant, Becker, who lectured in full military uniform. Ballance considered himself a bacteriologist as knowledgeable as any in England; indeed he was invited to become bacteriologist to the London Water Company. He had attended lectures by Virchov and Helmholtz, the clinics of Volkmann and Bergmann and worked with Sherrington, producing, with him, a paper in the *Journal of Physiology* on the formation of scar tissue. He had assisted Horsley in the first successful removal of a benign intraspinal tumour in 1887, and had encouraged Horsley to extend the laminectomy further upwards when the initial exploration had failed to reveal the tumour. He also wrote a book on nerve regeneration with Purves Stewart in 1901.

He remained engaged in experimental work until late in his career when he went to the USA to do experimental trials in animals, working on facial nerve grafting with Duell in New York in the early 1930s when such practice was not permitted in the UK. He was, with Sir Victor Horsley, surgeon to the National Hospital, Queen Square. His book *Some Points on the Surgery of the Brain and its Membrane*[5] contains a report of what is often said to be the earliest successful removal of an acoustic nerve tumour, though it seems likely the growth was, as Cushing suggested, a meningioma lateral to the porus. The postoperative picture of the patient suggests that the success was a qualified one.

Ballance's remark, in this address, that he looked forward to the time when a window in the skull would be made by the surgeon with a like precision, gentleness and ease that a pane of glass is fashioned by a glazier by means of a diamond, led to the appearance, headed by the quotation, in *The Manchester Guardian* of 15

Sir Charles Ballance

January 1927, of a piece of humorous verse by "Lucio" that Jefferson thought worth preserving in the Minute Book.

The Obscurantist

Some talk television, some trifle with Freud;
Such pryings and peerings they make me annoyed:
At windows in heads I am simply aghast-
Is privacy wholly a thing of the past?
I may be old-fashioned or stupid or dull,
But I don't want a window knocked into my skull,
And if one were added I think you would find
A man of refinement would pull down the blind.
No matter how skilful or painlessly done,
I won't have this "tenant's improvement" begun:
No – be it a dormer, a lattice, or bay
I won't have a window, whatever they say!
What, have my top storey and all its affairs
Arranged so that any outsider who cares
Is free to peep in through my crystallised dome
And note whether all of the chairs are at home?
Away with such notions! No surgeon I'll fee
To open so magic a casement on me,
Lest wags in my window this notice should set:
"WITH VACANT POSSESSION THIS ATTIC TO LET".

Percy Sargent (1873–1933), surgeon at St Thomas' and the National Hospital, had been a highly qualified and successful general surgeon and had had little experience in neurosurgery before being appointed as assistant surgeon to the National Hospital. He studied the methods of Horsley and evolved a technique of his own.[6] He had a distinguished career in the World War I, being awarded

a Distinguished Service Order for his work in a neurological centre in France where he had collaborated with Sir Gordon Holmes on the neurology of war wounds of the brain. He was outside the Cushing tradition and, according to Paul Bucy,[7] vocally critical of its slow and painstaking methods. Though he is said to have had a rapid and gentle technique, the description by Harvey Jackson, who worked with him, of his method of removing a meningioma with his finger and controlling bleeding by packing the cavity,[7] suggests a rough, general surgical style, outdated by Cushing's. Yet Cushing himself reported on his operation on a compound head wound in France in 1915 as "a very careful, neat and expeditious performance".[8] An indication of the state of neurosurgery at the National Hospital at the time was that the Cushing technique was characterised by FMR Walshe as "a triumph of technique over reason".[9]

Donald Armour (1869–1933) was a Canadian and son of the Chief Justice of Ontario. He had moved to London to study medicine, worked with Horsley and been appointed to staff of the National Hospital. He had won the Jacksonian Prize for an essay on the diagnosis and treatment of diseases of the spinal cord, though as a neurological surgeon it was said "he relied too much on complicated mechanical devices."[10] Namely: the motorised saw and trephines. Pennybacker, who saw him do a subtemporal decompression in the thirties, comments that his technique was crude and involved much use of a chisel.

Louis Bathe Rawling (1871–1940) was surgeon at St Bartholomew's Hospital and also the West End Hospital for Nervous Diseases, at the time situated in Welbeck Street and St Katharine's Lodge in Regent's Park. He had written to Jefferson urging that the society should contain surgeons only: no one impractical. He had written works on skull fractures and surface markings in anatomy,[11] the latter still being regarded as useful in the 1950s.

Blundell Bankart (1879–1951), an orthopaedic surgeon, is remembered for his operation for habitual dislocation of the shoulder, but he had been influenced by Sherrington. He held appointments as surgeon to the Royal National

Orthopaedic Hospital, the Belgrave Hospital for Children and the Hospital for Epilepsy and Paralysis, Maida Vale, thus practising as an orthopaedic, paediatric and neurological surgeon. Later he was on the staff of the Middlesex Hospital and became president of the British Orthopaedic Association. He developed an interest in manipulation as a means of treating the spine and other joints, writing a textbook on the subject. He resigned his membership in 1937.

Lennox Broster (1889–1965), a South African and an Oxford Rugby Blue, had as his main interest the adrenal gland and the adreno-genital syndrome. He was surgeon to Charing Cross Hospital where, at the fifth meeting of the Society, he is recorded as having carried out a section of the trigeminal sensory root.

Lancelot Bromley (1885–1945) had been elected to the staff of Guy's Hospital in 1920 with charge of the neurological department. He is described as "shy, modest, unassuming and known affectionately to his colleagues and pupils as 'Daddy'".[12]

Wilfred Trotter (1872–1939) was a surgeon at University College Hospital where he was influenced by Horsley. He was a person of wide accomplishments both in surgery and beyond. He became interested in Freud's writings but thought they neglected the social side of man.[13] He wrote two papers before World War I on man as a social animal living together with others, and these were subsequently published as a book in 1916, *The Instincts of the Herd in Peace and War*. The publication of this was said to have been encouraged by the government to help national morale. He identified three types of gregariousness, that of the beehive, the sheep flock and the wolf pack. He put Britain in the first category and Germany in the last. With a colleague, he carried out a study of cutaneous sensation, amplifying the experiments of Henry Head, which, together with his own, involved the section of cutaneous nerves. He interpreted his own results as opposing Head's theory of protopathic and epicritic sensation. Described as being an exceptional technical surgeon, he was concerned with the treatment of malignant disease, especially those of the head and neck and, in neurosurgery,

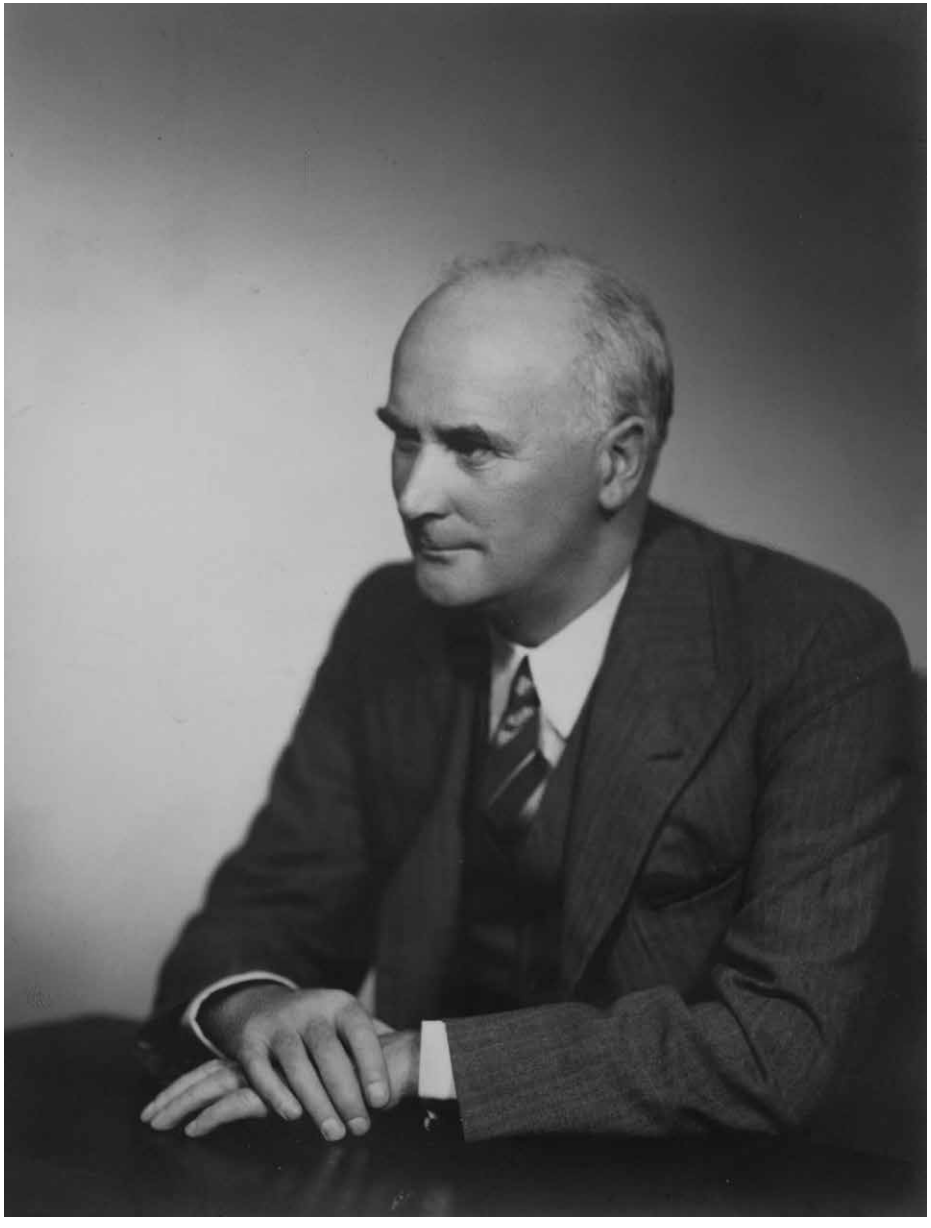
intracranial aneurysms and subdural haematoma. He was married to the sister of Ernest Jones, Freud's disciple and biographer, with whom he shared rooms. Like Jefferson after him, he was elected a Fellow of the Royal Society.

Henry Souttar (1875–1964) was surgeon to the London Hospital. He, too, had wide interests in surgery: he carried out one of the first mitral valvotomies, and his skill as an engineer led him to devise a hand-operated instrument for cutting a bone flap rapidly, which is preserved in the Royal London Hospital Archives and Museum. The device was subsequently taken up by W James Gardner in the USA[14] and modified by Hugh Trumble in Australia.[15] Cairns, his surgical colleague at the London, felt he (Cairns) had offended him by breaking away to set up a neurosurgical department in a London teaching hospital.

Adams McConnell (1884–1972), from Dublin, was one of the instigators of the Society – Jefferson said "It was all due to Adams and me". Apparently it was questioned, perhaps by Ballance, whether he should be a member because he was Irish, but Jefferson's wish prevailed.

James Learmonth (1895–1967) had his medical course interrupted by World War I, during which he served in France as an officer from 1914. He completed his course in 1921 and worked at the Mayo Clinic with Alfred Adson, neurosurgeon, with a Rockerfeller scholarship. He was subsequently on the staff there as an associate professor of neurosurgery between 1928 and 1932. He worked on the innervation of the bladder and the sympathetic nervous system and had written a thesis on spinal tumours. He resigned from the Society at the second meeting at Manchester in 1927, probably because of his impending departure to the Mayo Clinic, but reappeared on his return. Later he held the Chair of Surgery at Aberdeen and subsequently at Edinburgh. He was knighted following his operating on King George VI for peripheral vascular disease.

Archibald Young (1873–1939), Professor of Surgery at Glasgow, had been senior assistant to Sir William Macewan at Glasgow. Though he had been attached



Adams McConnell

Hugh Cairns

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to the 4th Scottish General Hospital during World War I as a neurological expert, his main interest in the nervous system seems to have been in sympathectomy for Raynaud's disease, Hirschsprung's disease and even chronic arthritis,[16] though his belief in the ability of procedure to relieve pain was not shared by other surgeons. He submitted himself to periarterial sympathectomy for the treatment of chronic X-ray dermatitis of the hand with ulceration. The records of the society suggest he did not play an important part in it up to his death in 1939

Norman Dott (1897–1973), who did not attend the dinner but was at the clinical meeting at the National Hospital next day, came from a family of art dealers and had originally intended a career in engineering.[17] He had been appointed surgeon to the Deaconess and the Royal Hospital for Sick Children. He was recruited by Sharpey-Schafer, then professor of Physiology in Edinburgh, to help with the surgical side of some animal research on the pituitary and it was this that led to his spending a year, 1922–23, with Cushing in Boston on a Rockefeller Scholarship and to his entry into neurosurgery. He had no beds in the Edinburgh Royal infirmary to start with and took patients for surgery to a private hospital, returning them for postoperative care. He took an early interest in arteriography and was one of the first surgeons to carry out a direct operation on an intracranial aneurysm, the procedure being to wrap it with muscle.

In addition to the founding members, there were at the Athenaeum dinner four distinguished scientists:

David Ferrier (1843–1928), physician to King's College Hospital, had done much important experimental work on electrical stimulation of the motor cortex of primates after its excitability had been demonstrated by Fritsch and Hitzig in 1870. His experimental work led to the bringing of an unsuccessful case against him by anti-vivisectionists.

Sir Edward Sharpey-Schafer (1850–1935) had been Professor of Physiology at University College and, later, Edinburgh, and the co-discoverer, with Oliver, of the

Norman Dott

With thanks to the Royal College of Surgeons of Edinborough for their permission to reproduce the portrait.

pressor effect of adrenal extract in experimental animals, making him one of the founders of endocrinology. He had done neurophysiological work on stimulation of the cerebral cortex with Horsley, who was working at the time in Sharpey-Schafer's laboratory in University College. Later he investigated the spinal cord and developed the prone method of applying artificial respiration after drowning, which carried his name and was adopted by the Royal Life Saving Society.

Grafton Elliott Smith, an Australian who had been professor of anatomy, first in Cairo where he was involved in anatomical and anthropological studies of excavated mummies, and later at Manchester and then University College London. It was in his department at Manchester that Jefferson had worked as a demonstrator and had been influenced by Elliott Smith's special interest in the brain. Like Keith, he had been interested in in the Piltdown Man discovery. Indeed when it was revealed as a hoax it was suggested[18] that he was responsible, though this allegation has been universally rejected.[19]

Sir Arthur Keith (1866–1965), medically qualified, was the distinguished Conservator of the Hunterian Museum of the Royal College of Surgeons, as well as being a comparative anatomist, physical anthropologist and evolutionist. He had been involved with the Piltdown man discovery and was distressed when it proved to be a hoax. He was a populariser of science in the Victorian mode, being a gifted lecturer and writer.

Sir Charles Sherrington, the great neurophysiologist, at that time Professor of Physiology at Oxford, had been invited but sent apologies for being unable to attend.

Jefferson appears to have been anxious to establish ties with purer forms of neuroscience in establishing the Society. Sharpey-Schafer, Elliot Smith, Keith and Ferrier gave short addresses, manuscripts of which exist in the Society's archives and in the *BMJ*, with Ballance's address. Ferrier was optimistic about the future of neurosurgery. He had been present at Godlee's operation on a cerebral

tumour in 1884 and in his address he remarked that he thought the result of this operation had been too enthusiastically reported. He had also seen Horsley remove an epileptic frontal focus, which was "a triumphant success". Together with Hughlings-Jackson he had watched Horsley's pioneering removal of a spinal tumour. Sir Arthur Keith, in a short address, mentioned that the calvarium belonging to Godlee's patient was in the Hunterian Museum of the Royal College of Surgeons. It was probably destroyed when the College suffered bomb damage during World War II as it cannot now be found.

The First Meeting: 3 December 1926, London

The day after the dinner there was a meeting at Queen Square attended by 13th of the 14 members. Sargent removed portion of a pituitary adamantinoma (craniopharyngioma) and explored what was thought preoperatively to be a parietal endothelioma, but the skull was very thick and no tumour was found. Armour carried out a chordotomy for gastric crises, the cord being split in the midline. The patient died within days.

Armour described the case in his Lettsomian Lecture,[20] which was published in *The Lancet*. The idea of the operation had been suggested to him by Godwin Greenfield, and Armour remarks that perhaps it was not a good idea to do such an operation for the first time in these circumstances. The same surgeon also explored the cerebellopontine angle for a suspected neurofibroma but the exploration was negative.

Following the meeting, Luncheon was at the Holborn Restaurant where, in *A Study in Scarlet*, Dr Watson is described as lunching with Stamford, who then introduced him to Sherlock Holmes in a laboratory at St Bartholomew's Hospital.

In the afternoon there was a demonstration of the pathology of adamantinomas of the pituitary by JG Greenfield, where Sargent spoke of his experiences with

exploring pituitary tumours, and in the evening there was a dinner at Armour's attended by a number of members of the staff of the National Hospital.

The First Constitution and By-laws

The earliest booklet containing the constitution and by-laws is attached to the first minute book covering the years 1926–1937 and has a hand-written note on the front saying it dates from 1938. In Jefferson's correspondence from his first period as Secretary there is a draft of a constitution in his handwriting and a couple of typewritten copies of a constitution and by-laws, though these are difficult to interpret. There is also a copy of the constitution, from America, of the Society of Neurological Surgeons which Jefferson apparently used, together with that of the British Orthopaedic Association, in devising a constitution for the SBNS.

The initial rules defined types of membership. There was to be full membership, emeritus, honorary (the distinction between the last two is not made clear) and associate. Numbers were to be limited to 15 to start with, only one more than the number of founding members, a limit that was increased at the next meeting. There would be two meetings a year, Michaelmas (autumn) and summer, and membership was forfeited if three successive meetings were missed. The constitution also stated that there should be foreign meetings.

The initial subscription was to be one guinea (a little over £55 in today's money). To the original officers – President, Secretary, Treasurer and committee members – was added an Associate Secretary whose task would be to collect literature, reprints, books and the like. Dott was nominated for this post. It was resolved that members should make a contribution of two guineas to stock a library. The financial records show that this was indeed collected, although a handwritten note by Jefferson adjacent to this says that "only ND knows what happened about this".

2
The Early Meetings

The second meeting was in Manchester on 24 and 25 June 1927, though Jefferson, in a letter to Souttar in February of that year, suggested it was too early to have it there. This was a noteworthy event as Cushing – who had given the Macewan Lecture in Glasgow on olfactory groove meningiomas in which he introduced his experience with electrosurgery (or surgical diathermy) – was in attendance, and the programme was more extensive than the first one. Other visitors were Dr N Royle, Professor Hall from Sheffield and Professor Linnell from Toronto. Four associate members, Calvert, Doherty, Paterson Ross and Julian Taylor, attended.

In the morning, at Salford Hospital, Jefferson operated for trigeminal neuralgia and cases were shown. In the afternoon, at Manchester Royal Infirmary, there was a business meeting of 20 minutes, in which some changes were made to the by-laws, the subscription was raised from one to three guineas (about £170 in today's money), a subscription of one guinea was introduced for associate members, and it was decided that a place should be found in future meetings for review of patients operated upon or presented previously.

The programme devoted more than an hour to the subject of intracranial aneurysms, with Dr Shaw Dunn discussing their pathology and Wilfred Trotter their treatment. Jefferson, in his account of the history of the Society in the early copies of the handbook, says Trotter advocated bilateral ligation of the internal carotid arteries as being no more risky than ligation of the internal alone – a

surprising suggestion – but examination of the note by Jefferson in the Minute Book shows that what was recommended was tying both internal and external carotids, presumably on one side only. Sargent subsequently spoke on haemangioma of the pia mater cerebri (angioma), and after tea Royle of Sydney, Australia, an orthopaedic surgeon, spoke on the operation of sympathectomy for spasticity, a procedure that he and Hunter, a young Professor of Anatomy in Sydney who died of typhoid fever in London in 1924, had first advocated in that year and which had excited great interest, though it was subsequently shown to be ineffective and based on erroneous theory. Royle showed a cinematograph film and Bankart, no doubt as an orthopaedic surgeon, and Cushing discussed the matter, although their views are not recorded. Dinner was at the Midland Hotel and cost twelve shillings and sixpence (the equivalent of around £35) without wine. Further papers and a cinematograph film were presented the following (Saturday) morning at the Manchester Medical School.

The third meeting, in London, on Friday and Saturday, 2 and 3 December 1927, was held at the London Hospital and University College Medical School. The associate members were listed for the first time and consisted of Cairns, Calvert, Doherty, Lambert Rogers, Paterson Ross, Julian Taylor, Wakeley, Romanis and Wagstaffe. There had been some letters between Jefferson and Bathe Rawling, who had proposed him, as to whether Wakeley should be elected as Jefferson thought he was too senior and had not written much on neurosurgery but, in the end, Jefferson agreed. Wakeley, though he shared authorship of a book on pineal tumours, remained a general surgeon at King's College Hospital and became President of the Royal College of Surgeons.

Three honorary members were elected (Stopford had been elected to this category on 17 February 1927): Harvey Cushing, Charles Frazier of Philadelphia and WW Keen. Frazier, with the neurologist Spiller, had developed section of the trigeminal sensory root via the middle cranial fossa for the relief of trigeminal neuralgia, an operation that superseded Cushing's ganglionectomy, and had also developed Spiller and Martin's antero-lateral cordotomy.

Keen, who has seen service in the American Civil War, had been one of the earliest surgeons to attack an intracranial tumour, removing, in 1887, a parasagittal meningioma with a long survival and it was he who introduced tapping of the lateral ventricle to reduce intracranial pressure. He was formerly Professor of Surgery at Jefferson Medical College, Philadelphia, and to his eight-volume textbook, *Surgery, Its Principles and Practice*, Cushing had contributed a section of the surgery of the head that ran to 276 pages, rather than the 88 pages that had been requested.[21] At the age of 84, in 1921, Keen had been consulted after Franklin Roosevelt was stricken by poliomyelitis when staying at Campobello, on the Bay of Fundy, and no local doctor of experience was available. He diagnosed a blood clot in the spinal cord and submitted a fee of $8,000 (about $90,000 in today's money) which Roosevelt "reluctantly paid".[22]

At this third meeting, Trotter was elected President and, at the business meeting, a slight alteration was made in the by-law about foreign meetings; the Assistant Secretary, Dott, outlined plans for a library, though nothing ever came of this; and Learmonth resigned – probably because he was going to the Mayo, where he held a staff appointment until 1932. The records show that he continued to appear at meetings after his return.

The clinical part of the meeting began at the London Hospital, with Souttar doing a frontal craniotomy three inches in diameter using his craniotome but failing to find the tumour, which proved at post-mortem to involve the corpus callosum. Souttar showed a number of cases upon which he had performed cranial operations, as well as a new surgical motor and a cerebral localiser for making lesions in the brains of small animals. In the afternoon the meeting was held at University College where Professor Grafton Elliot Smith spoke on neglected aspects of endocranial anatomy, Trotter on head injuries, and Julian Taylor on invasion of the skull by dural tumours.

Hugh Cairns made his first appearance at this meeting, having recently returned from his year in Boston with Cushing. Though his appointment in 1926 to the

London Hospital had been as a general surgeon, he became, on his return in September of that year, a specialist neurosurgeon, setting up, under fairly straitened circumstances, a unit at the London that attracted surgeons from Europe and Australia interested in the specialty. He therefore came to be recognised as one of the three founders of neurosurgery as a specialty in the UK.

The fourth meeting was held in Edinburgh in June 1928, with the business meeting being held at the North British Hotel. Jefferson insisted that members attending a meeting should stay in the same hotel and refuse invitations to stay with local members. He had written to Souttar before the previous meeting, declining an offer of hospitality for this reason.

At the business meeting, there was, again, a slight change in the by-laws. Sargent was elected President and it was decided to have a meeting in Paris. The operative demonstration was given on this occasion by Dott, who removed an orbital osteoma at the private nursing home at 19 Great King Street, which he used for neurosurgery. This was successful and, at the same location, Logan Turner gave an illustrated lecture on the paths of infection in the brain, especially from the nasal sinuses. In the afternoon, at the University, Sharpey-Schafer read a paper on the effect of nerve section on his own hand and fingers and Traquair spoke on ophthalmology in relation to neurosurgery. There is a note of complaint in Jefferson's annotation that this "turned out to be almost entirely a description of field defects of vision". Professor Wilkie showed a young woman with an acoustic nerve tumour in whom he had carried out a first-stage operation, though what this involved – whether it was merely removal of bone or opening of the dura – is not described. He sought advice on when he should proceed, with Sargent suggesting he delay for 12 months. Finally Wagstaffe spoke on the incidence of epilepsy after gunshot wounds of the brain, based on material from World War I.[23] Jefferson commented that it was "carefully worked out", making it sound like a precursor of Jennett's work much later.

The fifth meeting was again held in London, on 30 November and 1 December 1928. The business meeting was at the National Hospital and a venue in Paris was suggested for a future meeting.

The morning session was held at Guy's, where Bromley carried out a negative cranial exploration using a de Martel powered drill and he and Charles Symonds showed two cases of "pseudo cerebral abscess", presumed to be due to lateral sinus thrombosis and subsequently called otitic hydrocephalus, an aspect of benign intracranial hypertension. In the afternoon "a valuable paper" (Jefferson) was given by McConnell on fallacies of ventriculography in supratentorial tumours.

There was no summer meeting in 1929. Peter Schurr[24] says this was due to Jefferson's inability to arrange one. Jefferson himself, in the Minute Book, says it was due to illness.

The sixth meeting, at Michaelmas on 22 and 23 November, was held at the Radcliffe Infirmary in Oxford. At the business meeting it was again suggested that a foreign meeting be held in Paris. No operative demonstration featured, presumably because there was no neurosurgeon or neurosurgical department there. Jefferson gave a talk on Jacksonian epilepsy and the evolution of Jackson's views.

Dott showed some angiograms he had done using a 25% solution of sodium iodide. The difficulty of timing the exposure of the plate was evident though a picture of contrast in the angioma was obtained.

Dinner was at Magdalen College where Fulton (the American physiologist and biographer of Cushing), Liddell and Denny-Brown, all from Sherrington's laboratory, were guests.

On the Saturday morning, there were demonstrations of physiological preparations, including a decerebrate cat with a deafferented hind limb.

The seventh meeting was finally held in Paris, on 12, 13 and 14 June 1930. Armour was elected President. There were no papers but, instead, visits to the clinics of André Thomas, Alajouanine, de Martel and Clovis Vincent. André Thomas showed a case where a graft from a dog's sciatic nerve had been grafted into the upper three nerve trunks of the brachial plexus of a patient. It is commented that "some conduction was getting through". In the afternoon, de Martel operated on an acoustic nerve tumour under local anaesthetic, using the sitting position achieved by a special seat. Jefferson recorded the condition of the patient as fair only. Alajouanine showed cases at the Salpetrière hospital and there was a tour of the institution. Vincent operated on a spinal tumour at his private clinic. He, too, used local anaesthetic, with the patient in the sitting position, and the tumour was intramedullary, a lipoma. The exposure did not extend above and below to expose any normal cord. The operation was abandoned and Jefferson noted, "Vincent was unsympathetic to the patient's screams of pain. I was disgusted". This case must have been in Jefferson's mind when, commenting on a letter from Cushing comparing de Martel's surgery unfavourably with Vincent's, he wrote: "Queer how experiences differ. The writer had the reverse experience once in Paris. Surgeons have their 'off days'".[25]

The eighth meeting was in London, at the West End Hospital for Nervous Diseases, then in St Katharine's Lodge, Regent's Park, on 13 and 14 November 1930. There were some changes in the rules governing the status of membership. Olivecrona, from Stockholm, and Oljenick, from Amstserdam, were made honorary members and Charles, from Ipswich, was ejected for having failed to attend any meetings. Lindau, of Lund, discussed blood vessel tumours of the brain and spinal cord in a paper published in the *Proceedings of the Royal Society of Medicine*. Operative demonstrations included an exploration of the posterior fossa, in the approach to which Wakeley employed Souttar's craniotome. The dura was not opened. A note by Jefferson says that further operation was

undertaken in 1931, the tumour was found to be small, hard and had the seventh nerve covering it and nothing further was done. The patient returned to work.

At Dublin, 3 and 4 July 1931, (the ninth meeting), McConnell used de Martel's drill in exposing and removing a meningioma with the patient in the sitting position. A previous operative demonstration at this meeting, an exploration of the chiasm, was negative. Jefferson commented that the meningioma procedure "went very well", something worthy of note when the previous operative demonstrations are reviewed. The scientific side was catered for by a lecture by Ariën Kappers on the physiology of glia and subarachnoid fluid spaces and the choroid plexus.

These early meetings were attended by small numbers, usually six or eight full members but sometimes as few as four, increased by half a dozen or so associates. Operative demonstrations were a common feature. In the first ten meetings, eighteen operations were performed. Thirteen of these were craniotomies for supposed tumours, of which seven produced negative explorations. In one the entry in the minute book records the finding as uncertain, although it sounds like it was negative; one was a first-stage exploration only; and four were positive in that a tumour was found. In only two was it removed and in one the condition of the patient was unsatisfactory at the end of the procedure. Only in excision of a convexity meningioma by McConnell does it seem that a good immediate result was obtained. Of the other operative procedures, two cranial nerve sections were performed, one of the IXth and the other of the Vth, the latter an operation in which it was very difficult (before the operating microscope was introduced) for anybody except the operator to see anything. Two were spinal operations, one of which, by Vincent, seems to have been an unpleasant fiasco and the other, by Armour, resulted in death in the early postoperative period. Dott's removal of an orbital osteoma was a success.

These figures show the difficulties attending neurosurgery at the time and, perhaps, the inadvisability of operative demonstrations – a practice that nonethe-

less survived intermittently into the fifties. It is hard to imagine that such demonstrations were very enlightening except to show theatre set-up and equipment and the occasional new device such as Souttar's craniotome or de Martel's drill. Olivecrona's demonstration, in 1935, seems to have been a notable exception to the unsatisfactory record.

These difficulties may explain the favourite comment concerning meetings: that it was the discussion that counted.

An interest in basic sciences is evidenced by the visit to Sherrington's laboratory and the lecture by Ariën Kappers. Most of the contributions of the members themselves were in the form of case demonstrations and an effort is evident, in the rule introduced at the second meeting at Manchester, to provide a follow-up of the cases. The discussion after each presentation was traditionally described as the most important thing but the social side, the opportunity to keep in touch with others struggling with the clinical and administrative difficulties of introducing a new specialty must, at this time, have been the most important contribution of the Society. It was not yet playing a political role, no doubt because such a role only existed as a local affair within the hospitals in which the members were working. The modest size of the early minutes underlines this: one minute book sufficed from 1926 till 1942.

3
The 1930s to the Start of World War II

During the remainder of the 1930s, up until the outbreak of war, meetings continued to be held twice annually and attendance of full members did not often exceed ten – 15 including other members – but from the mid-30s the increasing number of associate members raised the attendance to above 20. Honorary or emeritus members such as Vincent, de Martel and Olivecrona attended on occasions and at particular meetings there might be a number of guests. Meetings that required travel outside the UK – including the one in Dublin – had notably small numbers. There were, for instance, only three full members, Dott, McConnell and Jefferson, at the 1937 meeting in Berlin and Breslau. At this meeting, however, there were eight associate members and a number of visitors from Germany and other continental countries, and the total amounted to 39.

At the tenth meeting in London in November 1931 there was a discussion of the funds of the Society, and whether it should continue to pay for the dinner twice yearly as, if it did not, the subscription might be lowered. Other possibilities discussed were the awarding of a prize for an essay on a neurological subject, the publishing of the collected papers of Sir Victor Horsley and, possibly, those of Sir William Macewan. The last was decided against on the grounds that Macewan

had published his work in books, while Horsley's papers were scattered. The Committee and Wilfred Trotter were instructed to discuss the Horsley project further but, in fact, nothing ever came of it, though, at the 21st meeting in London in January 1937, the question of publishing monographs by individual members was raised.

At this meeting, de Martel described the use of lipiodol for myelography, and Greenfield, in a discussion on gliomas, expressed the view that some pineal tumours resembled seminomas of the testis and might be teratoid tumours, a view later advanced by Dorothy Russell and Lucien Rubinstein. At the dinner, Armour exhibited a wooden gavel that had been used by Victor Horsley and which Wakeley had acquired. A silver label had been affixed describing its origin and it became the Society's gavel, used by the President. It cannot now be found.

The summer meeting in 1932 (the 11th meeting) was in Amsterdam, Oljenick and Brouwer being hosts. Professor O Förster, of Breslau was made an honorary member. Only four full members attended: Armour, Rawling, Taylor and Jefferson.

At the winter meeting (the 12th meeting) at St Bartholomew's it was decided that a printed booklet containing the names of the members and office bearers and the by-laws of the society should be published. The earliest edition of this in the archives is undated but has 1938 written on the front, and a further copy, also undated, can be inferred to be from about 1948, from the date of the last meeting recorded. Other copies were produced in 1956, 1965, 1977, 1981 and 1984.

At the scientific part of the meeting, Olivecrona described "thorotrast arterial arteriography". De Martel agreed to receive the Society in Paris for their next meeting.

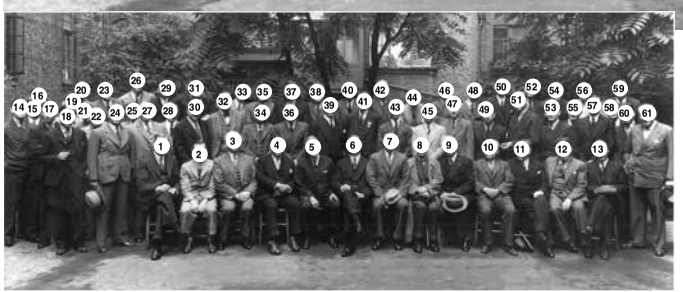
Jefferson was in hospital during the thirteenth meeting in Paris in the summer of 1933 and no details of it are included in the minute book.

At the fifteenth meeting in Edinburgh and Aberdeen in 1934, Tönnis, from Berlin, Petit-Dutaillis from Paris and Martin from Brussels were made corresponding members.

Medical ethics arose in neurosurgery at that time as Learmonth gave a paper titled *Is society in a position to formulate guiding principles for declining to operate on certain intracranial tumours?*. The *Medical Press and Circular* reported that Cairns thought the problem was that the pathology of most tumours could not be determined before operation. Julian Taylor considered that left temporal tumours were not worth operating on and nor were some cases of acoustic neuroma. Dott recommended avoidance of surgery for basal or brain stem growths. Paterson Ross was against surgery for secondary deposits and in cases where the patient was blind but comfortable. Jefferson thought more attention should be given to the general condition of the patient.

Sir Charles Ballance, now in his late seventies, showed cinematograph film of the results of operations on the facial nerve in man and baboons.

Three meetings were held in 1935, including one extra meeting on 3 August 1935 (the 18th meeting), the reason being the presence of a number of American neurosurgeons in London attending the Second International Congress of Neurology. A joint meeting with the Society of Neurological Surgeons and the recently founded Harvey Cushing Society was therefore arranged at the National Hospital, Queen Square. A striking group photograph of those attending is reproduced on page 36. Cushing himself was not there but 14 Americans, 20 members of the SBNS, 9 honorary or corresponding members and about 25 others attended, a total of around 70. Jefferson gave an operative demonstration of sectioning the glossopharangeal nerve through the posterior fossa, Cairns showed cases and reports of the recent meetings of the three societies were given. The scientific programme appears to have been very crowded, starting with a discussion on glioblastoma.



A satellite meeting of the SNBS and the newly formed Harvey Cushing Society, 1935

1: Hugh Cairns, 2: John Beattie, 3: Clovis Vincent, 4: Ernest Sachs, 5: Charles Fraxier,
6: Geoffrey Jefferson, 7: Max Peet, 8: Otfrid Foerster, 9: Thierry de Martel,
10: Puusepp (Estonia), 11: Egaz Moniz, 12: John Fulton, 13: H Bergstrand,
14. N Behrman, 15: unknown, 16: G Clarke-Maxwell, 17: AC Crook, 18: Almeida Lima,
19: Arthur Elvidge, 20: Lewey, 21: Julian Taylor, 22: JE Paterson, 23: Ernest Levine,
24: B Schlesinger, 25: Lambert Rogers, 26: WG Crutchfield, 27: Paul Bucy, 28: Linnel,
29: Joe King, 30: Percival Bailey, 31: Frances Grant (?), 32: E Schaltenbrand
33: G Rowbotham, 34: ARD Pattison, 25: Adams McConnell, 36: Kobcke, 37: A Adson,
38: J Learmonth, 39: C Calvert, 40: Coleman, 41: G Horrax, 42: J Paterson Ross
43: W de G Mahoney, 44: KG McKenzie, 45: D Petit-Dutaillis, 46: LC Lindon,
47: Donald Sheehan, 48: Norman Dott, 50: Tracy Putnam, 51: AB Clery,
52: Willie Henderson, 53: Harvey Jackson, 54: G Alexander, 55: Douglas Northfield
56: Hugo Krayenbuhl, 57: Arnold de Vet, 58: Franc Ingraham, 59: Harry Lee Parker
60: Adolfo Ley, 61: Manuel Balado

Other topics covered were skeletal traction for cervical fractures, and brain abscess. Vincent advocated excision for the latter, presumably a daring proposal as most of the others seemed to have been using some sort of drainage procedure. Penfield reported his method of photographing the brain from a distance and Putnam reported the treatment of hydrocephalus by endoscopic destruction of the choroid plexus. Ernest Sachs, a surviving pupil of Horsley, described cortical excision for epilepsy and other papers were given on the hypothalamus, aneurysms and changes in the pituitary cells in basophilism. The meeting closed at 7.20pm after 11 hours, and those attending retired for dinner at Claridge's Hotel, a solemn photograph of which event exists.

Eight members and associate members attended the summer meeting held in Stockolm in 1935 (the 17th). Discussions on the first day were mainly on vascular lesions – Sturge-Weber syndrome, aneurysms, arteriovenous malformations and angioreticulomas. Olivecrona operated on both mornings, tapping a frontal cerebral cyst, removing a left parietal meningioma and a pituitary tumour, carrying out a subtotal removal of an acoustic nerve tumour and a frontal lobectomy for a glioma and clipping a trigeminal sensory root through the posterior fossa. Lysholm, the pioneer in neuroradiology, demonstrated ventriculograms of third and fourth ventricles, changes in the skull in meningiomas and the use of lipiodol in the ventricles. Jefferson remarks that "Dr Olivecrona was not only the perfect host but the most perfect diplomat possible". Olivecrona's operating, his speed and skill, greatly impressed Jefferson,[26] who reported on it to Cushing. It clearly contrasted with previous experience of operative demonstrations.

In the summer of 1937 the Society went to Berlin and Breslau. Tönnis, a honorary member of the Society since 1935, was the host in Berlin at the Kaiser Wilhelm Institute and Förster, an honorary member since 1932, in Breslau. Joe Pennybacker, in his memoirs[27] and in his Cairns Memorial Lecture *Fifty Years On*, remembers the strident note of Nazi militarism that was evident in Berlin.

Sauerbruch lecturing in Berlin, 1937
Front row includes: H Olivecrona (second from left), K Eden (fourth from left), H Jackson (fifth from left)
Second row includes: D Northfield (third from left), J Pennybacker (fourth from left):

There were many soldiers in Berlin and much Nazi saluting. A visit to the Olympic Stadium from the previous year found it still bristling with Nazi flags. A military band played. Jefferson reported that the reception given by the Berlin Medical Society was the most impressive gathering that had ever appeared at any Society meeting. The list of speakers was certainly so, including as it did such important figures as Schaltenbrand, Bergstrand, Ringertz, Zülch, Spätz, Sjöqvuist, Busch, Krayenbühl, Olivecrona, Lima, de Martel and Martin. Jefferson listed 39 names but this list may be incomplete. He does not mention Pennybacker, de Vet and Torkildsen, all of whom were there. Pennybacker appears in the photograph of Sauerbruch's demonstration and has left an account of the meeting. A paper by Löhr on arteriography of intracranial aneurysms appears to have made a notable impression.

Breslau 1937

Front row includes: Dickson Wright (first from left), G Jefferson (fifth from left), O Förster (seventh from left), H Olivecrona (ninth from left), N Dott (tenth from left), H Krayenbühl (fourteenth from left)

Second row includes: D Northfield (third from left), K Eden (fourth from left), W Henderson (eleventh from left), J Pennybacker (twelfth from left):

The German medical and surgical societies gave a dinner at the Bristol Hotel, the cost of which the Society and its members reluctantly found themselves paying.

Pennybacker concluded that Tönnis, who spoke no English, must have been a good organiser since the meeting went so well. He thought he was pleasant enough but, though he had trained with Olivecrona, a rather rough surgeon. He was an honorary member of the Society but after the war he was thrown out because he had been a Nazi. Pennybacker was sympathetic to the younger German neurosurgeons who, he thought, were in a difficult position at the time as they could not continue with their work if they did not accept the political regime. Tönnis, according to Pennybacker,[28] had been said to have been helpful to Martin in Brussels during the war, obtaining instruments for him, and also

"that some of our men who were prisoners of war in Germany thought he had made beneficent efforts on their behalf.[29]

He mentioned that Sauerbruch, the famous general surgeon who had devised early a method of performing open chest surgery by operating in a low-pressure chamber, also gave a demonstration carrying out an oesophago-gastrectomy. Pennybacker thought this was rather rough too. After the war, Sauerbruch continued as an important surgical figure in East Berlin, in spite of progressive dementia which was for a time ignored because his prestige was important to the government. Eventually he was dismissed amidst scandal.[30]

According to Pennybacker, the political significance of what was going on in Germany was not fully appreciated at the time by the British contingent (though manifestations of it were obvious), but it certainly was by the continental members, whom he observed discussing it quietly and anxiously.

The second part of the meeting was held in Breslau where Naziism and its outward display were carried out with less verve than in Berlin. Förster was an old-fashioned gentleman, an Anglophile and a scientist. Pennybacker thought he wasn't much of a surgeon but an excellent neurologist, neuropathologist and neuroanatomist. Ludwig Guttman, a Jew in Förster's hospital, fled within two years to Oxford where Hugh Cairns found a position for him and George Riddoch, conceiving the idea of a spinal injuries unit at Stoke Mandeville, chose him to direct it, with important consequences.

After this memorable meeting, Pennybacker and Northfield went to Sweden to visit Olivecrona, whose surgery Pennybacker thought "wonderful".[31] He totally removed an acoustic nerve tumour in two hours, dealt with a pituitary tumour through a frontal craniotomy, and explored a cystic temporal glioma. In the afternoon they played golf. Three aspects that impressed Pennybacker, apart from Olicecrona's skill, were the quickness of the surgery and the lack of talk in the theatre, both of which he thought must have been important factors

in lessening the risk of infection, and the neuroradiological skill of Lysholm. Lysholm was largely responsible for founding this specialty (neuroradiology), which was essential to the progress of neurosurgery, a fact amply demonstrated by the Society's earlier experiences with operative demonstrations.

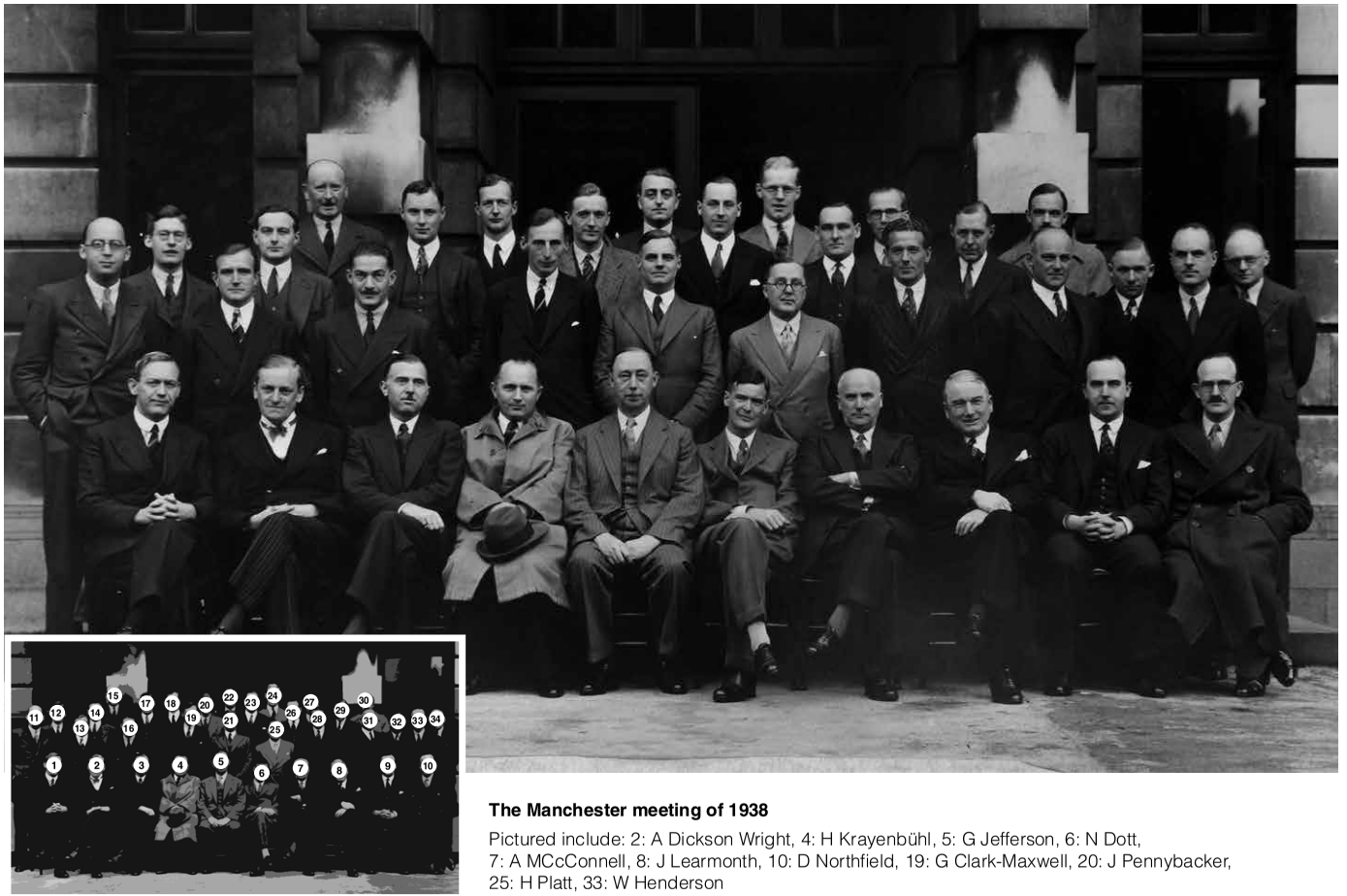
The winter meeting of 1937 (the 23rd) was held at the Strangeways Research Laboratory at Cambridge, where EG Adrian was Professor. Twenty-seven attended, of whom 18 were associates – a group that was evidently growing. The programme was almost entirely physiological, there being films on tissue culture of embryonic brain, the development of rodent teeth, and embryology of the nervous system, as well as a pharmacological demonstration and communications from the Departments of Anatomy and Physiology. On the first day, Friday, only one paper, on potassium levels in familial periodic paralysis, might be considered clinical. On the Saturday morning Percival Bailey, from Chicago, who with Cushing was responsible for the histogenetic classification of gliomas, spoke on the structure and classification of tumours arising from the medullary epithelium. This and the last paper by Dott and Levin, on material from members of the Society on intracranial tuberculomas, proved to be the only contributions with neurosurgical content. A note by Jefferson appended to minutes of the meeting at the National Hospital in January 1937 complains that nothing ever came of the tuberculoma material given to Dott by members of the Society, but it seems that this criticism was premature.

The 24th meeting was held in Paris in June 1938, at La Pitié Hospital and the Salpétière. Vincent operated, and spoke on the treatment of cerebral abscess. The Germans were represented by Zülch, Tönnis and Schaltenbrandt, each of whom gave a paper.

At the winter meeting in Manchester in 1938 (the 25th) a small number of members (4) but a large number of associates (19) attended. McKissock made his first appearance in the latter group. Neurosurgery in case of war was discussed and it was resolved that the next meeting should be in Oxford and that neurosurgeons

attending the International Congress of Neurology in Copenhagen, scheduled for August 1939, should be invited.

The Oxford meeting was duly held in August 1939, immediately before the Copenhagen Congress and the programme gave instruction on how to reach that city by boat or aeroplane. (It is hard to obtain any information of how the Congress fared, occurring, as is did, a few weeks before the onset of war). Frances Grant, WM'K Craig, William German and Jason Mixter from the US attended the Oxford meeting, the programme of which included a discussion on penetrating head injuries, a condition on which Jefferson commented that he was the only one present who had had experience of the condition in World War I. The inevitability of the coming war was recognised but spirits were high and the sympathy of the American visitors was appreciated.



The Manchester meeting of 1938

Pictured include: 2: A Dickson Wright, 4: H Krayenbühl, 5: G Jefferson, 6: N Dott, 7: A MCcConnell, 8: J Learmonth, 10: D Northfield, 19: G Clark-Maxwell, 20: J Pennybacker, 25: H Platt, 33: W Henderson

4
The War Years

Early in 1939, Jefferson and Cairns were appointed as consultant advisers to the Ministry of Health and Pensions, with responsibility for the organisation of neurosurgical services for the country during the impending war. Cairns joined the army in 1940 and carried out the same task. Jefferson then became sole organiser for civilian neurosurgical services and worked through the Emergency Medical Service, which was now in charge of Voluntary and Local Hospital Services. This advisory post continued after the war, when Jefferson was replaced successively by Douglas Northfield, Joe Pennybacker, Richard Johnson, Jason Brice, and others (see Appendix). This was the avenue through which the Society could influence government policy, though it should be emphasised that the appointment was not made on the basis of membership of the Society but independently, by the government, and the holder's opinion was intended to be sought as required.

During the war there was, with the exception of 1943, only one meeting a year, but there were good attendances: 20 members and the same number of visitors at the 1940 meeting in September at Oxford, 22 and 53 respectively in July 1941, again at Oxford, 27 and 26 in August 1942 at the National. There were two meetings in 1943, the first, in May 1943, at the National, and the second, in October, at Chase Farm, Enfield. Numbers were smaller at the Emergency Medical Service (EMS) hospital at Chase Farm, to which the neurosurgical department of the London Hospital had been evacuated

It is noteworthy that considerable numbers of US and Canadian military neurosurgeons came to these wartime meetings and in November 1944 the meeting was held at the Canadian Neurosurgical Centre at Hackwood House, Basingstoke, where there was an attendance of 75 and a symposium on the treatment of battle casualties took place.

The last meeting of the war was held in June 1945 at Edinburgh and Bangour, after the end of hostilities in Europe. Dott presented a communication on intracranial-extracranial grafting of facial nerve. Jefferson included at the foot of the programme for this meeting a note saying that it was hoped that an American naval officer would arrive from the USA in time to show a film of experimental head injury. Whether this was accomplished is impossible to know from the minutes but the work referred to seems very likely to have been the studies by Pudenz and Shelden[32] on brain movement in monkeys exposed to head trauma, observed through a transparent lucite calvarium previously implanted. This work, which supported the concepts of the mechanism of concussion proposed by the physicist Holbourn, working with Cairns and presented at Oxford in 1941 at the 28th meeting, would no doubt hardly be considered possible today in this country, but the technique realised in some measure the humorous verse by "Lucio" in the Manchester Guardian in 1927.

5
Early Post-War Meetings

The 34th meeting was held at the EMS Hospital at Hill End in February 1946, and, though well-attended, it was short, occupying the Saturday only.

The two-day Oxford meeting (the 35th), held on 19 and 20 July 1946 in the presidency of Hugh Cairns, was felt to mark the new era.[1] It was summer, there were visitors from overseas – Ingraham and Errico from the USA, Lima from Lisbon, Torkildsen from Norway, Sjöqvist from Sweden, Busch from Denmark, de Vet and Noordenbos from Holland, Dessieux and Morelle from Belgium – and the programme was a large one, especially when compared with the previous meeting.

The meeting was held in Nuffield Institute and in Le Gros Clark's Anatomy Department. A summary in the minute book, the author of which was not indicated, remarked upon the feeling of freedom felt and expressed by the continental neurosurgeons, no longer cut off from colleagues by war. They were surprised at the progress made on the Allied side in the treatment of infections by penicillin, as the effectiveness of this had been dismissed by the Germans.

The programme included papers on the long-term outcome of gunshot wounds of the brain by Ritchie Russell; the results of ventriculo-cisternostomy by its in-

ventor, Torkildsen; and Pennybacker and others on, variously, prophylactic local penicillin in preventing infection in cranial operations, radio-necrosis of the brain (with Dorothy Russell) and temporal arteritis (with Peter Daniel). Torkildsen presented the results of his operation of ventriculo-cisternostomy for aqueduct stenosis in 32 cases, and Lima, the results of 200 lobotomies from Moniz's clinic. The last author also showed two monkeys rendered docile by leucotomy, an exhibit which attracted great interest on that occasion. At the business meeting, Sir John Stopford was made an emeritus member.

The next meeting, in the spring of 1947, was the first foreign one since that of 1938 in Paris and was held in Lisbon. In the country of its invention, the main topic was arteriography. Moniz himself spoke on thrombosis of the internal carotid artery and its branches and on the interpretation of films of the cerebral circulation. Papers on vascular topics were given by Moniz and other Portuguese speakers as well as by Krayenbühl, from Zurich, Dott, and Feindel from Montreal. There was an operative demonstration, though of what is not recorded.

The November meeting in Glasgow in 1947 was notable only for Taylor and Blackwood's paper drawing attention to injuries to the cervical cord in hyperextension of the neck without vertebral injury and for the introduction by Tutton and Shepherd of thorotrast instillation into cerebral abscess to allow its size to be observed by plain radiography, since thorotrast was taken up by the wall of the abscess. This was a final appearance of this dangerous material in radiology of the nervous system, as it was replaced by micropaque barium in delineating abscesses by plain radiogaphs.

In 1949, only one meeting, in July, was held.

6
Political Involvement and the National Health Service, 1948

Between 1945 and 1947 a planning committee of the Society, consisting of Cairns as President, Jefferson as Secretary, Henderson as Assistant Secretary and Dott, Paterson Ross, Stammers, Harvey Jackson, McKissock, Northfield, O'Connell, Rowbotham and Julian Taylor, produced a report, published as a pamphlet, entitled *Notes on the Neurosurgical Needs of the Population and the Training of the Neurosurgeon*.[33] This seems to have been the first occasion on which the Society attempted to take a role in formulating policy and, therefore, in medical politics.

This pamphlet starts by saying that the matters it is considering are given special point by the impending health service and by announcing that neurosurgical centres should be in general hospitals with university affiliations. It makes a point that country centres are pleasant but impractical because of their isolation. This may reflect experience during the war when emergency services were evacuated from city centres. The report also does not favour special hospitals separated from a general medical and surgical environment.

The war had resulted in a great increase in the number of neurosurgical beds in the country: from 85 to 450–500 in London; 30 to 145 in the north west; and 50 to 210 in Glasgow and Edinburgh. After remarking that wartime experience had shown that neurosurgical conditions were not as rare as had sometimes been said, the report provides figures for total admissions to 14 neurosurgical centres in the 5 years from 1940 to 1945, amounting to 32,491 patients, excluding battle casualties, or about 6,500 per year. The report concedes that a reduction of the number of beds below that available in wartime will be inevitable and that this could be adjusted for by expansion of existing centres and the establishment of new ones. It is interesting that by 1965 the number of neurosurgical admissions per year was 30,569 and operations, both major and minor, 25,323.

Though teaching hospitals were thought to be the natural site for neurosurgical units and the committee argued that undergraduates would benefit from exposure to the speciality, it was recognised that the number of beds that could be given to neurosurgery in such an institution and, therefore, the size of the unit, would be limited by the fear of the loss of too many general medical and surgical beds needed for teaching. Auxiliary centres would be necessary but should be close to the university hospital.

The committee had little evidence on which to make a recommendation about the number of beds required in the future, estimates varying between 50–60 and 80–100 per million. Some general recommendations were made as to the siting of extra units.

Head injuries were recognised as being a problem. It was one that neurosurgeons did not actually come to terms with during the remainder of the 20th century. They were and are common, though no epidemiological figures were available at the time. Many were relatively minor, a proportion clearly needed early neurosurgical treatment for open fractures or haematomas, and in between were severe cases which might need delayed surgery and would benefit from the superior nursing and diagnostic facilities of a neurosurgical unit. But there were not

enough neurosurgeons to look after this group primarily, nor did they wish to do so as it would distract them and their facilities from the more interesting fields of elective neurosurgical conditions. This problem has, perhaps, never been entirely solved, though the introduction of scanning and intensive care has gone far in doing so while shifting some of the care of a fundamentally neurosurgical problem into other hands: those of anaesthetists and intensive care physicians. The reluctance of neurosurgeons to take up the problem led the committee to various recommendations to escape from it: the training of staff in peripheral hospitals in the care of patients with head injuries and the early recognition of complications such as haematomas; the suggestion that they should all be admitted to accident units in hospitals with neurosurgeons at hand to provide advice and care, as happened at Oxford; or even, in some cases, the provision of flying squads from the local neurosurgical centre, which would send such outlying hospitals to carry out emergency operations, something that was done for a time in Edinburgh.

Other matters dealt with are the after-care of head injuries, the size of a neurosurgical unit (50 beds were recommended), the training of neurosurgeons, for which a year of general surgery following the acquisition of the FRCS was recommended, followed by four years in neurosurgery and related disciplines, and recruitment into neurosurgery.

An odd inclusion is a section on domiciliary visits which are mentioned as being provided for by the new National Health Service Act. It seems the committee was anxious that this might result in frequent demands from general practitioners for a given consultant to respond to such a request and, not knowing the likely demand, they wished to protect consultants from such diversionary activity. It specified that such request ought to be answered by the attendance of a member of the junior medical staff, who would be sufficiently qualified to decide whether admission should be recommended. As things turned out, the demand for this service in future years turned out to be small.

There is no record of this report, or the committee that produced it, in the minute book, which is very thin for the years 1944–47. With the exception of three typewritten pages reporting on the July meeting of 1946 at Oxford, it contain little but the programmes of meetings. The impending arrival of the NHS suggests itself as a reason for the report, though it was apparently started in 1945. It may therefore have sprung from a desire to plan for the future after the disruption of war and to use the experience gained in organisation of medical services. It is worthy of note that the only mention in the minutes for 1948 of the introduction of the National Health Service in July of that year occurs in the minutes of the Newcastle meeting in November, when a committee consisting of Lambert Rogers, Jefferson, Cairns, Dickson Wright and Henderson was formed to consider conditions and terms of service for neurosurgeons in the health service and to send a memorandum to the Central Consultants and Specialists Committee. Pennybacker,[34] in his memoirs, comments on the inconspicuous nature of the introduction of the NHS, so far as everyday work went.

The two meetings for the year were held in Dublin and Newcastle. In Dublin there was a symposium, contributed to by Olivecrona, Horrax, Northfield and Cairns, on the treatment of acoustic nerve tumours, which demonstrated the relatively high mortality attending surgery for this benign lesion. WJ Atkinson gave his paper on the anterior, inferior cerebellar artery and its significance in the surgery of acoustic nerve tumours, work to which great – probably excessive – importance was subsequently attached by W House in Los Angeles when he was developing the translabyrinthine approach to these growths.

The summer meeting in 1949 at Queen Square was notable for being concerned with the surgery of involuntary movements. There had been much discussion, which had got into the lay press, of the results of excision of cortical area 4S for relief of Parkinsonism. Paul Bucy denounced these claims and opined that there was no surgical cure for Parkinsonism. Krynau, who was from South Africa and had spent time at Oxford, reported on the results of hemispherectomy

for infantile hemiplegia with epilepsy. Ernest Sachs, who had spent time with Horsley, gave his personal reminiscences.

At this meeting, a report of the committee that had considered the conditions and terms of service for neurosurgeons in the health service was presented but the report is not, as it is said to be in the minutes, attached.

The main points are reported to be:

1. The downgrading of trainees when starting their training in neurosurgery.

2. Ceiling fees for private hospital patients.

3. Questions of payment of fees for exceptional visits to private outlying hospitals.

Other items considered were remuneration for exacting operations, complaints about the grading of neurosurgeons by hospital boards, and the report of a Ministry of Health committee on standard neurosurgical instruments. A committee was set up to consider training and work for speech therapists.

Thus, within a year of its inception, the NHS was producing the changes in the role of the Society that were to become characteristic of the new mode of medicine.

At the Manchester meeting of May 1950, a proposal was received from the Association of British Neurologists (ABN) that a joint meeting be held every year. This appeared to have been greeted rather coolly, the response being approval of an occasional meeting but, as neurologists were always welcome at SBNS meetings, a joint meeting every fourth year was thought to suffice. In fact, the first such joint meeting was held at Queen Square in February 1952, was repeated in 1953, then at two yearly intervals until 1959. In March 1958, the Advisory

Council, after receiving a letter from the Secretary of the ABN, decided to restrict meetings to once every three years, though this was not strictly adhered to. The length of the intervals between the subsequent meetings in 1969, 1978, 1984, 1988 and 1995 reflects, probably, the divergence of interests between the two specialties, evident, too, in the contents of what were formerly general neurological journals such as *Brain*. These journals had at one time contained some neurosurgical papers but these gradually diminished in number with the growth in size and numbers of neurosurgical journals after about 1970.

At this meeting in May 1950 it was decided that in future the business meeting would take place on the evening before the scientific sessions. It had hitherto apparently been squeezed in at the end of the scientific part and there was often not enough time. The formation of an advisory council to advise and negotiate with official quarters in the NHS on the interests of neurosurgeons was suggested by Dott. Owing to lack of time, further discussion was deferred till the next meeting.

At the next meeting, in Birmingham in December 1950, no decision was reached on the advisory council but a committee was formed to report on urgent matters, especially the excessive number of registrars. The cap on numbers of full members was raised from 36 to 50 and it was decided that associates should not automatically become full members on attaining consultant status but that the matter should be decided on their 'general standing in neurosurgery'.

During this period, the site of the next meeting – in this case April 1951 – appears to have been arranged at the preceding business meeting. At Birmingham, the choice was between Copenhagen and Madrid. In the end the latter was chosen, and at that meeting there was no business meeting. This was the only meeting held that year.

At this meeting, a letter written on 30 March 1951 from Olivecrona to Jefferson[35] suggesting the formation of an International European Society for Neurosur-

gery was discussed. Olicecrona had written to Jefferson as long ago as October 1931,[36] advocating the formation of an international society and mentioning that he felt isolated in Stockholm. Dott had also suggested such an organisation in a letter to Jefferson just before the onset of World War II. Opinion was against such a thing because the SBNS already visited European clinics and foreign surgeons visited this country.

The vexed question of senior registrars was also discussed (see page 56).

At the scientific part of the meeting, the subject of cervical myelopathy from cervical spondylosis first appeared in a paper by Greenfield, Mair and Druckman while at the next, in Zürich in June 1952 at Krayenbühl's department, carpal tunnel syndrome was discussed. At the latter meeting, the Advisory Committee was established and the first mention of an organised ladies' programme appears. It was not until December 1958 that ladies were allowed to attend dinners.

Establishment of an Advisory Committee, 1952

It was at the business meeting of the Society at Manchester, in May 1950, that Norman Dott, supported by his disciple George Alexander, proposed in a letter the formation of an advisory council to advise and negotiate with official quarters in the NHS on the interests of neurosurgeons. Owing to lack of time, further discussion was deferred till the next meeting.

It was duly discussed again at the next meeting in Birmingham in the autumn but no decision could be made because the President, Harvey Jackson, was absent. However, a special committee to deal with urgent matters – especially the excessive number of registrars – was formed, consisting of Jefferson, Cairns, Dott, Alexander, Dickson Wright, Henderson, Hughes and Northfield.

In 1951, apparently no business meeting took place during the only meeting held that year, in Madrid, so the matter was not further discussed until the February 1952 meeting at Queen Square, when, as mentioned above, it was decided to dissolve the Executive Committee and establish an advisory committee, consisting of the President, Secretary, Treasurer (ex officio) and seven elected members. The last would be elected for three years in the first instance and, thereafter, two should retire each successive year, the order of retirement being decided by ballot. Where a matter was of particular concern to an individual region, the members from that region should be co-opted and the committee should have power to co-opt any other members of the Society.

At Zürich, in June 1952, these changes to the constitution were agreed and Dott, Jefferson, Hughes, Alexander, McKissock, Hughes, O'Connell and Rowbotham were elected to the new Council, which met for the first time on 22 September 1952. Subjects discussed were a paper on *Criteria for Consultant Status*, and the numbers of senior registrars (16 for England and Wales). Recommendations were that the number of consultant neurosurgeons should be increased and that senior registrars should be trained where suitable facilities were available.

Problems with staffing in the 1950s

At the business meeting at the National Hospital in February 1952 there arose the political and administrative question of staffing, and the proper number of senior registrar posts that should exist in the country. The Ministry of Health suggested ten but this was thought too small to offer proper competition for consultant posts or senior registrar posts. Competition implied that some might fall by the wayside and, indeed, many doctors left the health service during this period, seeking advancement overseas when prospects in the UK were uncertain.

A major problem during the fifties and early sixties was that units tended to be small, with few consultants – in some cases only a couple. Junior staff, particu-

larly at registrar and senior registrar levels, were necessary if the units were to run, but there weren't many new consultant appointments. Senior registrars might spend years in that position, which was supposed to be occupied for only four years. A registrar appointment was for two years, after which he or she was expected to seek a senior registrar post, though some individuals, especially those from overseas, might remain in the registrar grade for longer or drop out to emigrate or enter a specialty where prospects were better. In all specialties in the latter part of the fifties and beginning of the sixties, time-expired senior registrars (ie those unable to find a consultant appointment) were common and often, in the case of general medicine and surgery, such a person had been shunted out of the teaching hospital to a peripheral one, perhaps to be forgotten. There were difficulties with obtaining house surgeons too, as neurosurgical resident positions – not, it might be reasonably thought, a very suitable pre-registration post – were recognised for this sort of appointment in some hospitals and not in others.

These problems of staffing can be reduced to the observation that more junior staff were needed than permanent positions could be found for them at the end of their training, and this was in spite of the fact that medical staff from overseas could be used without any such nominal obligation. All of this might be considered, in part, a consequence of having a monopoly employer. It was very difficult at the time for those who failed to get consultant posts to go into private practice, as would have been the case in, say, the US.

The position is summed up by Jefferson in the agenda of a business meeting held on 10 July 1954. He provides a resumé of a discussion he and Brodie Hughes had had at the Ministry with the Deputy Chief Medical Officer at the Ministry of Health, Dr George Godber: "But the crux of the matter is what are we going to do with them [junior staff as a necessary pair of hands] when their official period of training is over?" The Ministry expressed through Dr Godber some responsibility in this way, "that it comes in for some of the odium when men cannot find permanent employment of the kind they had hoped for or expected or even believed they had been tacitly promised." A "ray of hope"

was the possibility that some of the senior registrars might be converted into an SHMO (Senior Hospital Medical Officer) or associate surgeon, which would be a permanent post. This solution, the post of SHMO, was greatly disliked as it created a sub-consultant grade with limited freedom and prospects and it was never widely adopted. Jefferson's discussion of these ideas emphasises that there was no prospect of expansion of the service or of the creation of new consultant posts and it was therefore essential to limit the entry of trainees. This reflects the state of the NHS at the time, six years after its inception, when very little expansion was yet possible. For instance, in 1956, the Ministry of Health published a document in which it predicted that there would be no vacancies by retirement before 1962 when there would be two, followed by one more in 1964 and then two in 1965. Thus there were to be no prospects for trainees for a further six years, and only five in the next nine years. In time the problem receded, with the enlargement of units and, later on, with the changes in training in the 21st century, which resulted in consultants doing most of the elective and emergency work and the trainees having fewer service responsibilities, though whether it can ever be entirely solved must remain in question.

7
Meetings and Changes 1950–1960

In the early years after the end of the war, the technique of percutaneous cerebral angiography became established, and with it the growth of neurosurgical interest in spontaneous subarachnoid haemorrhage and the surgical treatment of intracranial aneurysms. This period corresponded to the rise of Atkinson Morley's Hospital (St George's) as the most important neurosurgical centre in London, under the direction of Wylie McKissock who established a British school of neurosurgery both there and at the National Hospital, Queen Square. These institutions were quite distinct from those of Jefferson, Dott or Cairns and were characterised by the development of more rapid surgical techniques directed by accurate neuroradiology, the rapid turnover of large numbers of patients so as to provide a neurosurgical service to a wide area of southern England, and the careful analysis of this extensive material. The turnover and efficiency of St George's made it the largest contributor to local and international studies of the outcome of subarachnoid haemorrhage, of surgery for intracranial aneurysms, and of the efficacy of surgery.

Other important developments in neurosurgery were stereotactic techniques, applied first to Parkinsonism and later to treat disorders of function such as dystonia; improvement in the design and function of cerebrospinal fluid shunts for hydrocephalus; surgery for some forms of epilepsy; and a transitory

enthusiasm for operation on the pituitary gland or hypophysial stalk in patients with carcinoma of the breast. Notable advances occurred in anaesthesia. The effects of anaesthesia on intracranial pressure were of great importance and the difficulties were aggravated by the position in which the patient might need to be placed to allow access to the posterior fossa. The prone and sitting positions offered special problems. The accepted opinion that spontaneous ventilation must be preserved as a warning sign if it were altered by his manoevres further increased these difficulties, but during the 1960s it gradually became accepted that the advantages of controlled ventilation greatly outweighed this theoretical objection. New anaesthetic agents and the introduction of urea and mannitol to reduce intracranial pressure were important additions, making intracranial surgery a great deal easier, especially around the base of the skull.

During this period, overseas meetings were held in Madrid (April 1951), Zurich (June 1952), Brussels and Louvain (May 1954), Toronto (June 1955) and Stockholm (May 1956), Wassenaar and Utrecht (May 1958) and also in Belfast (December 1954) and Dublin (May 1957).

The Cairns Lecture

The death of Hugh Cairns at the early age of 56 in 1952 had removed from the Society an important influence and it was natural that some memorial be established in his memory. In May 1954 it was decided that the memorial would take the form of a lecture with an honorarium and expenses attached. A general appeal was made through a letter published widely in the press and directly to members and to neurosurgeons throughout the world.

By November 1956, £1,300 had been collected for the Cairns Memorial Fund. And, in 1957, this was greatly increased by a donation of £4,000 from the American Armed Services in Europe. Pennybacker, who was Treasurer of the Society at the time, gives an account of this donation.[37] He had a telephone call from

Colonel Pletcher, Commander of the 7505th US Air Force Hospital at Burderop Park, near Swindon, saying that he had a cheque that he wished to give to the department at the Radcliffe Infirmary in recognition of the services Hugh Cairns had given to the US Army in Europe since the war. As it was for a considerable sum they wanted to make a formal presentation, and this was duly arranged. Henderson, the current President, and Northfield, the Secretary, came to Oxford for a ceremony held in the library, with photographers in attendance. The size of the donation came as a surprise. Pennybacker thought it right to put it into the Cairns Memorial Fund. He understood that the impetus for this generous and unexpected gift came from the influence of Wil Mahoney, a neurosurgeon in New York and an admirer of Cairns, who had been at Queen Square with Pennybacker in the thirties and was the civilian adviser in neurosurgery to the US Army.

The fund was used to set up a charitable trust with three trustees, WR Henderson, DWC Northfield and Pennybacker himself as the first, and the purpose of the trust was to be educational. Later trustees were P Schurr, GK Titton, J Gleave, H Griffith and M Powell.

It was decided to use the fund to finance a Cairns Memorial Lecture. The first lecture was given at the London Hospital in March 1958 by Sir Geoffrey Jefferson. By 1988 twelve lectures had been given, spaced at irregular intervals, and these are listed in Appendix A. In 1977–78 a medallion was struck and was awarded to the lecturer, in addition to an honorarium of £200, later increased to £300.

The earlier lectures were intended to honour both the lecturer and Cairns' memory, but later ones were designed to be of an educational sort, surveying some important advance in neuroscience.

In 1971 Pennybacker was asked to give the lecture but suggested that, instead of this form of memorial, a prize for an essay on a research subject could be offered. The essay would be open to registrars, senior registrars and consultants

of not more than three years' standing. This idea was adopted but without abandonment of the lectures, one of which, in the end, Pennybacker did give, in 1976, when Douglas Northfield was unable to do so owing to illness. Pennybacker reviewed the history of the SBNS on the 50th year of its existence, the title of his address being *Fifty Years On*.

Peter Schurr's lecture of 1988 was, up until the time of writing, the last to be given.

Five more prize essays (listed in appendix B) were awarded before 1988, with prizes of between about £250 and £400. The first of these five was won by G Brocklehurst in 1973.

A further end to which the fund was put was in the provision of travelling scholarships for associate members. Five of these were awarded, the first in 1974 and the last in 1985. The SBNS itself contributed to two of these, pushing the sum awarded up to about £2,000.

Other contributions made by the fund were £1,000 towards the creation of a Cairns Seminar Room at the Radclife Infirmary (1982), £100 towards a plaque in St Hugh's College Oxford where Cairns had established the military neurosurgical unit, and sums to cover the printing of lectures by Leksell and Pennybacker.

After Peter Schurr's lecture of 1988, little seems to have been done with the fund. In about 2006 it was suggested it should be used to help fund the Chair of Neurosurgery at Oxford but nothing seems to have come of this proposal. The fund reached a value of almost £25,000 and was finally transferred to the SBNS accounts in 2013. A Cairn's memorial essay prize of £1,000 is now awarded every other year at the spring meeting of the Society.

In 1955 a portrait of Jefferson by Sir Gerald Kelly, which now hangs in the Royal College of Surgeons on loan from the family, was commissioned by the Society, and the presentation was made by Dott on 11 December 1955. The conditions

suggested by Dr Michael Jefferson on behalf of the family[39] and accepted by the President of the Royal College of Surgeons, Sir Arthur Porritt, were that it should be hung in a public part of the College, not too high, and that, should the SBNS acquire premises of their own, they would have an unquestioned right to remove it and use it for their own purposes.

In June 1960, at the joint meeting with the French society, a similar presentation was made by the Society to Norman Dott: a portrait of him by Sir William Hutchison (reproduced on page 21). Portraits were later painted of J Pennybacker and D Northfield.

In May 1957 the membership limit was raised to 75. There was introduced payment of three shillings and sixpence per hour (equivalent to around £4 per hour today) to secretaries working for the officers of the Society and an honorarium for the secretaries of the President and Secretary of £5 per year (the equivalent of around £120 today).

Reports of three wartime meetings of the Society were published in the *Journal of Neurology and Psychiatry* in 1940, 1941 and 1942, but it was not until 1958 that regular publication of abstracts of papers read at meetings was established, with the publication of abstracts from the meeting of November 1957 in the *Journal of Neurology, Neurosurgery and Psychiatry*. This continued till the mid 1980s.

It was decided in May 1957, before the provision of travelling scholarships by the Cairns Memorial Fund, that the Society might provide financial support, to the extent of £100, to senior registrars visiting clinics at home and abroad, and would also pay first-class fares for distant members of the Advisory Council. The first of these travelling awards was recorded in the business meeting of 1 July 1960 and given to TT King, who visited Zurich, Paris, Stockholm and Gothenburg in January 1963 on the award of £100 (about £2,250 today). There is no record of other awards of this type until those established under the Cairns Fund in 1974.

A Survey of Neurosurgical Services, 1958

In November 1956, the Society decided to circulate a questionnaire to all members to obtain information on theatre accommodation, nursing staff, waiting lists and other such matters, preparatory to pressing the ministry to establish more neurosurgical consultant posts. This may have stemmed, in part at least, from the anxieties about time-expired senior registrars, mentioned earlier.

An analysis of this questionnaire was received in November 1957. The figures provided for each area were population, number of neurosurgeons per 100,000 population, number of neurosurgical beds and number of acute neurosurgical beds. (It may be worth pointing out that estimates of population served by a unit were rough, especially in London, where catchment areas were not determined by fact – general hospitals and their consultants being free to decide to whom they would send cases.) The result of this study, analysed for England and Wales together and for Scotland, as well as by individual regions and the four London metropolitan regions including Queen Square and Maida Vale, showed 'glaring discrepancies' between regions. Scotland had almost twice the provision of beds, both neurosurgical (4.6) and acute (3.5), and more surgeons (0.17) per 100,000 population than England and Wales (who taken together had 2.4 beds, 1.8 acute beds and 0.1 surgeons per 100,000 population). The region best provided with neurosurgeons was Glasgow, (0.3 per 100,000 population), followed by Edinburgh (0.2). All three Scottish regions greatly exceeded, in total beds and acute beds, any other region, the figures being 6 and 3.6 respectively for Edinburgh; 4 and 3.6 for Glasgow; and 5 and 3 for Aberdeen.

The regions worst provided for were Leeds (surgeons 0.7, total beds 1.1, acute beds 1), Sheffield (0.8, 1.5 and 1), Wales (0.8, 1.5 and 1) and the South West Thames Metropolitan Region (05, 1.1 and 1). In an earlier report by the Society in 1951 (no copy in minutes) it had been suggested that there should be between 34 and 38 new appointments spread across the 19 units mentioned in that report, and no change in 3.

By 1958 there had been only 18 new appointments and one reduction. (There is some conflict in these numbers for it is also said that the number of consultants in 1951 was 42 and, in 1957, 56 – an increase of only 14.) The 1951 paper had also recommended 15 new units, of which 4 appeared to have been established by 1957.

The Society, apart from drawing attention to the discrepancies between regions, strongly supported the expansion of neurosurgical services. There was some expansion over the next 20 years or so, with large units opening in Cambridge, Southampton, and Plymouth. Smaller units in London – West End Hospital for Neurology and Neurosurgery (1972), Maida Vale (1983) and the Whittington (1976) – were also closed or merged with other centres, thus concentrating services in larger units, a tendency that continued up until the nineties, when the Guy's Maudsley Neurosurgical unit and that of the Brook merged in King's College Hospital, and the Central Middlesex and Westminster departments joined at Charing Cross. Some major hospitals – King's and St Mary's – had done some neurosurgery because a general surgeon on the staff (Wakeley, an early treasurer of the Society and later a President of the Royal College of Surgeons, in the first case, and Dickson Wright, who became President of the Society and was prominent in it as a wit and after-dinner speaker, in the second) did some neurosurgical operations. But this sort of arrangement disappeared with time.

The World Federation of Neurosurgical Societies

In 1955, there had been formed a Neurosurgical Section of the International Neurological Congress, which had itself been established and had its first meeting in Berne in 1931, when Cushing had cut such a great figure. According to the history of World Federation of Neurosurgical Societies (WFNS),[40] which this separatist movement eventually became, this represented a break-away by the neurosurgeons from the International Neurological Congress, which was to hold a congress in 1957. Initially, in an attempt to avoid a complete split, it

was suggested that the 1957 congress should be called the Congress of Neurological Sciences, but, under the influence of the neurosurgeon WB Scoville, the surgeons set up a completely separate congress. Jefferson and Brodie Hughes represented British neurosurgeons at a meeting in Brussels in 1955 in which a committee was set up to organise the First International Congress of Neurological Surgery and also to set about making a constitution for the WFNS. Between 1955 and the First International Congress in Brussels in 1957, Geoffrey Jefferson was President, though he had had reservations about the split. This schism met with resistance from neurologists, strongly voiced by Sir Francis Walshe.[41]

The formation of the WFNS did not seem to cause the same resistance in the members of the SBNS as did that of the EANS, perhaps because Jefferson was directly involved in the former. There are only a few passing references in the minutes to the subject: agreement to the separate neurosurgical congress to be concurrent with the 1957 International Congress of Neurology; complaint about the 'excessive' level of the impost to support this – $1 (about $8 today) per head of membership per annum; and some recommendations about the new federation's constitution and discussion of the site of the second congress. It is noted in November 1957 that the secretary presented a report of the first congress.

The European Association of Neurosurgical Societies

In March 1951 Olivecrona, in a letter already referred to,[36] had suggested the need for an international European neurosurgical society, but this had not met with the approval of the Society, which preferred the informal arrangements of visiting European clinics or having visitors from them.

Dott had also suggested such an organisation in a letter to Jefferson just before the onset of World War II.[42] On 14 March 1958, the Advisory Council discussed a letter from Marcel David of Paris and Professor Krayenbühl of Zurich to the presidents of the societies of neurosurgery in Europe, apparently suggesting

the formation of a European Congress of Neurosurgery. The response of the Society was to argue, as it had earlier, that this was not necessary, and it was implied that the recent establishment of the World Federation of Neurosurgical Societies, with a Congress every four years and joint meetings with the Association of British Neurologists, already filled the calendar.

The matter was further discussed at the Society's meeting in Holland in May 1958, when Krayenbühl, Milletti, de Vet, Ley, Noordenbos and Verbiest attended by request. Clearly there was a desire in Europe for what is described in the minutes as 'a greater degree of scientific intercourse'. Possibilities listed (presumable reflecting the thoughts of the SBNS members) were:

1. a European society or federation of national associations;

2. the same but consisting of individual neurosurgeons; or

3. joint meetings of two societies, open to members of all others.

The Society favoured the last. Krayenbühl reported that six of the eight national societies canvassed had favoured a federation and that two others, the French and the Iberian, would express an opinion at a joint meeting in Toulouse in June, to which the SBNS was invited to send two delegates. As it appeared that no one was available, a letter was sent instead to Krayenbühl. In the end, it was decided that if the majority of national societies were in favour, the SBNS would agree.

The SBNS letter[43] was written by the Secretary, Douglas Northfield, to his old friend Hugo Krayenbühl on 19 May 1958. It stated that the SBNS had always been very keen to promote friendship between continental neurosurgeons but its objection to a federation was that the meetings would be too big and unwieldy and that translation would be a problem. Krayenbühl replied[44] that the meeting at Toulouse had resulted in all the neurosurgical societies of Europe, except the British and Scandinavian, agreeing to a federation but that, as a result of the

objections of the SBNS, it had been decided to form a loose institution under the name of Entente Européen de Neurochirurgie, meeting every two years. In deference to one of the suggestions of the SBNS, the meetings would be run between two societies with one having the main responsibility but co-operating with another in the choice of two subjects for symposia. In fact, the SBNS did have a representative at the meeting, George Alexander, from Bristol, who voiced the dislike of the SBNS for symposia, and Krayenbühl proposed some suggestions to deal with this point. The Europeans appear to have made an effort to accommodate the British Society but the French society, in order not to lose time, proposed that Krayenbühl, as President of the new federation, arrange the first joint meeting in Zurich in 1959. The two societies responsible were the French and the German, and Krayenbühl nominated two topics: aneurysms, to be organised by himself; and central pain, by Riechert.

The official languages were to be French and German. Alexander, in his report to the Society, said he had pointed out that the result was, after all, a congress.

In circulating this information, Northfield proposed that the Society could either 1) ignore the entente, which would be damaging to its standing, 2) join but keep it at arm's length, allowing members to attend such meetings as they wished to, or 3) embrace it.

At the next business meeting (Liverpool, December 1958), the matter was discussed and it was agreed to join the Entente Européen de Neurochirurgie, provided there were assurances that it didn't interfere with the domestic arrangements of the SBNS, didn't conflict with the WFNS, had a minimum of rules of procedure, and had satisfactory financial arrangements. To what extent these provisos, with the exception of the one about the WFNS, were fulfilled is not clear.

The President and Secretary attended the first meeting of the entente in Zurich, where it was agreed that meetings should take place every four years, alternating with the World Congress, that two societies should be responsible for a meeting

and choose the venue, time and programme, that the domestic programme of the SBNS should not be interfered with and that the next meeting should be organised in Rome by the British and Italian societies in 1963.

This, then, was the origin of the EANS. The second European Congress of Neurosurgery in Rome in 1963 was jointly sponsored by the British and Italian societies and counted as one of the two SBNS meetings for that year, though Pennybacker pointed out that the British society did little but lend its name. The programme was printed in English, French, Spanish and German and the translation services were excellent. Pennybacker's slightly ironic comments concern an argument over whether Israel should be admitted (it was), the discovery that the executive council had no official status and had not kept records of the meeting in Zurich or the present one in Rome, and the observation that the tenor of the discussions was that the congress should confine itself to organising congresses every four years.

After the Rome congress, a European association of neurosurgical societies was mooted and a draft constitution was drawn up in 1966. At the Madrid congress in 1967, delegates of the European neurosurgical societies met under the chairmanship of Obrador. The SBNS were represented by O'Connell, Small and Pennybacker. Special attention was paid to the possibility of standardising training programmes in Europe and to the possibility of a clash between the proposed European organisation and the WFNS. In the end it was decided to set up a small committee to work out recommendations, which would be put to the constituent societies.

In 1971, at the Fourth European Congress of Neurosurgery in Prague, the association was established, with Richard Johnson, from Manchester, as its first President.

Apart from organising the congress and bringing together neurosurgeons from across Europe, as suggested by Olivecrona in his letters of 1930 and 1951, an

important part of the EANS's work was to organise periodic residential, educational courses for trainees from member countries

Analysis of the Enquiry Concerning Acute Head Injuries: October 1959

This document,[45] drawn up by Joe Pennybacker from information obtained from a questionnaire circulated among members of the Society, owed its existence to an enquiry from the Ministry of Health, through its civilian adviser, Sir Geoffrey Jefferson, as to the number of cases of prolonged coma caused by head injuries. The Society decided to extend the scope of the enquiry because there was a move by general surgeons to have the care of all head injuries taken over by neurosurgeons who had expertise that they, the general surgeons, lacked. Furthermore, the latter found head injuries in their beds a nuisance.

The study was based on a questionnaire circulated among members of the Society, so that it did not take into consideration the views of other surgeons (or physicians, for that matter) about the service being offered to these patients. It was broadly divided into two parts, the first considering by whom head injuries were managed in accident units, general hospitals and in hospitals with a neurosurgical unit, the second part dealing with such technical matters as the value of tracheostomy, hypothermia (which was then in vogue) and dehydration.

Accurate figures on the number of head injuries were not available but an indirect calculation was made, based on the statistics of the Royal Society for the Prevention of Accidents. According to this, the number of road accident casualties in 1957 was 268,308, and between 36% and 47% of these would be expected to have a head injury, producing a figure of between 96,000 and 125,000 a year. Pennybacker thought this might be as high as 150,000. Numbers of head injuries admitted to hospitals containing a neurosurgical department were available from the questionnaire, and also figures for mortality, operations both minor (eg burr

holes) and major, and numbers of patients in prolonged coma (more than four weeks). Figures for the multiple units in London, for England and Wales, and for Scotland and Ireland were examined separately.

The report recognised that there were various patterns of organisation for the care of head injuries. Uncommon was that existing in Newcastle, where all were admitted under the neurosurgical department. This would not have been possible for other units without a large increase in staff and beds and was probably feared as interfering with elective neurosurgery. In a few other centres such as Birmingham, admission was to an accident unit where neurosurgical help was immediately available. The rest operated on the basis of primary admission under a general or trauma surgeon (in Bristol it was to a medical bed, presumably under a physician) who would seek neurosurgical advice if necessary. Such advice was given over the telephone in the first instance, if the case was in a hospital without a neurosurgical department, and might be followed by the transfer of the patient or sometimes by a visit from a member of the neurosurgical staff, who might operate. Pennybacker calls this the Oxford plan. Occasionally telephonic instruction to the local surgeon on how to operate on an extradural haematoma might be given, though in practice this was rare as most general surgeons were reluctant to undertake such an adventure. Some effort was made to provide education on the care of head injuries to surgeons in peripheral hospitals.

The various statistics provided by the survey are difficult to summarise or, indeed, interpret. Mortality figures were highest in the neurosurgical centres taking a high proportion of transfers – about 7% overall in London, but 12% at Atkinson Morley's Hospital and 30% at the Brook, both of whose admissions were entirely referrals. This may be guessed as reflecting the severity of the injuries in referred cases. The rate of operations also differed greatly: 17% overall, about 55% at the Brook and Atkinson Morley's, but very low at St Mary's and the Hammersmith, which, though they had a neurosurgeon on the staff, probably did not have skilled neurosurgical staff permanently on duty.

The report shows the difficulty at the time of producing any interpretable figures when there was no agreed method (such as Jennett and Teasdale later introduced) of classifying the severity of the head injury, and the methods of diagnosis and treatment varied. At the time of the report, intensive care units scarcely existed and ventilation was not used for head injuries. The last point probably explains the prominence given in the questionnaire to the role of tracheostomy. Burr holes, which counted as a minor procedure and constituted about half of all operations, were not likely to be much more than a gesture in patients with severe brain injuries, even those with an acute subdural collection, and were of value only in particular circumstances such as chronic subdural haematoma and in locating an extradural clot. There is no mention of arteriography, a much more informative investigation at the time and one that would have reduced the incidence of exploratory burr holes and allowed the planning of more effective surgery – craniotomy for acute subdural haematoma, for instance. This condition was almost always associated with severe brain injury and the making of burr holes was not of therapeutic value and might actually be harmful if converted, in desperation, to a small craniectomy, through which the underlying cortex was likely to herniate and rupture.

Pennybacker notes, from the analysis of the questionnaire, the uneven distribution of neurosurgical units in the country, especially along the south coast from the Thames to Land's End, and the West Country, where there was only one centre – at Hayward's Heath – prior to the establishment of the units at Southampton and Plymouth. There was a similar state of affairs in East Anglia, about which Pennybacker said he had no information, though this lack of a centre would be corrected when the unit at Cambridge was opened in about 1960. He also mentioned the possibility of a helicopter ambulance service to deal with the problems of transport in Scotland.

The conclusions Pennybacker reached were: that the management of head injuries mattered (implying that this was a point of dispute) and mortality depended on whether the patient was admitted to a general hospital or a neurosurgical

unit; that the present arrangements were unsatisfactory; that neurosurgeons were prepared to do more but needed more beds and staff; and that rehabilitation services were quite inadequate. He makes it quite clear that he feared that the spread of satellite centres offering neurosurgical care for head injuries (such as the Newcastle plan would involve) would cause the dilution of other neurosurgical material, and he remarks that the increase in neurosurgeons would lead to the situation existing in America 'where some surgeons are glad to see left temporal glioblastomas'. There is no mention in the report of one of the main advantages of having neurosurgical wards treat any patients with head injuries that are severe but do not require surgery: the better nursing they would receive there.

Finally, the question of patients in long-term coma was mentioned. Sixty-four patients were found and it was reported that finding alternative accommodation for them was difficult.

When the Accident Services Review Committee of Great Britain and Ireland, chaired by Sir Henry Osmond-Clarke, issued a report in 1961, they considered a memorandum on head injuries submitted by Walpole Lewin, at that time appointed head of the new unit at Cambridge.[46] Using similar sources to those employed by Pennybacker, Lewin arrives at a figure of 100,000 as being "not an unrealistic estimate" for the number of head injuries annually, but he is more definite about the important connection between head injury and death in fatal motor accidents, 67.5% of the latter being associated with this type of injury. This report repeats the findings of the 1959 SBNS report about the way in which neurosurgical units should organise themselves to handle the problem, reiterating the three modes described in the earlier report. Lewin concludes that it would require 10 extra neurosurgical beds per million population in the country as a whole.

Other points emphasised were the importance of rehabilitation for mild head injuries; the need for special arrangements for long-term vegetative (the word is not used) patients; the training of junior general staff in head injuries; and

the establishment of good personal relations between neurosurgeons and the surgical staff of referring hospitals.

The report to which Lewin's memorandum was directed makes no specific reference to it or to head injuries, being largely devoted to a consideration of how accident centres should be organised. A second report was published in 1965 but also contained no special reference to head injuries.

Memorandum on Medical Staffing Structure in the Hospital Services circa 1959–60

In July 1959, a joint meeting with the Canadian Neurological Society and the ABN was held at the Royal Society of Medicine. Political and administrative matters loomed at the business meeting as a subcommittee was set up to draft a report to a joint working party on "the present staffing structure of hospitals". This report,[47] undated and unsigned, appears in the minutes between Pennybacker's head injury document, dated October 1959, and the minutes for the business meeting of 1 July 1960. It is a response to the joint working party on the medical staffing structure of the hospital service.

The discussion is laid out according to numbered grades, though what these were can only be inferred from the discussion under each.

Grades 1 and 2. House surgeons were a serious problem, solved in teaching hospitals by making the job a pre-registration one. This method was easier in teaching hospitals, though even there they were not always allowed, according to the records of Cardiff business meeting (May 1953). Where no house surgeons could be found, the work, together with their other duties, had to be done by registrars.

Medical students in many hospitals were not exposed to neurosurgery, making it unlikely they would apply for posts in the specialty. Suggestions for overcoming the difficulty included the pointing out to trainees, especially those in neurology, ENT, ophthalmology and traumatic surgery, the value of experience in neurosurgery.

The paper recommended that a person previously employed as a registrar in another discipline but now entering neurosurgery at an SHO level should retain the higher pay he or she had been accustomed to as a registrar.

Grade 3 and 4 posts seem to have been post-registration senior house officer and registrar positions and were seen as suitable for trainees studying for the fellowship but not necessarily committed to neurosurgery. However, in practice, appointment as a registrar in a neurosurgical department would not have been likely without the applicant having the fellowship. It would have been unusual for a registrar, then, not to proceed with a neurosurgical career though, at the end of his or her two-year appointment, he or she would have needed to find a senior registrar post and might not succeed in doing so. This, therefore, was a level at which the trainee might fail, by misfortune or because he or she was thought inadequate or might decide against continuing and have to find an alternative specialty, which might be difficult to do, or because he or she might decide to emigrate. So-called 'seamless' training schemes did not exist.

Grade 5 positions were for senior registrars in training as neurosurgeons. It was acknowledged in the document that, after being in such a senior grade for several years, a person would be unfit for any other employment. A guarantee of a consultant post at the end was desirable but would require some adjustment of the number of senior registrars to the number of consultant posts becoming available. The paper acknowledges that to do this accurately would be impossible and that some senior registrars would have to wait an inordinate length of time before obtaining a consultant post.

Grade 6 was to consist of the much-disliked senior hospital medical officer position, a permanent post for those who were not likely to become consultants, either because they had not and could not get the fellowship, or because they were thought not to be capable of holding a consultant post for more general reasons. Tenure, lack of complete clinical independence and a salary scale the highest levels of which overlapped the lower reaches of a consultant's were features of the position that never became common in neurosurgery. The paper equivocates on the grade, saying on the one hand that it is undesirable because it has no place on the training ladder, yet on the other that there is a need for a secure position for "a few carefully selected persons who clearly will not achieve consultant status".

Grade 7 were consultants, about whom the paper said it had little to say except there should be more of them.

The report finished with a plea for research in neurosurgery, to be encouraged by providing consultants with paid sessions not allocated to clinical work. Such research sessions, it says, were advocated in a report on clinical research in relation to the National Health Service in 1953, but nothing had come of the suggestion and governing bodies of hospitals did not consider it when appointing consultants. Furthermore, there were no funds to pay for, and no non-medical research staff employed, in conditions comparable with those in commerce.

8
1961 to 1970

Meetings continued to be held twice a year during the 1960s. There were overseas meetings in Copenhagen (May 1961), Warsaw and Cracow, with the Polish Society (September 1962), Rome, as part of the European Congress (1963), Prague and Smolenice (1964), Copenhagen as part of the World Congress (1965), New York with the Neurosurgical Society of America (1967) and Coimbra with the Spanish and Portuguese Society (1968). Combined meetings were held, in London with the Neurosurgical Society of America in 1963, with the British Neuropathological Society in Dublin in 1966 and with the German Neurosurgical Society in Cambridge in 1970.

The first trade display occurred at the meeting at St Bartholomew's Hospital in May 1962 when Downs – who were the most important British surgical instrument supplier and had absorbed Lewis Brothers, the well-known specialist firm in Marylebone who had been providers of neurosurgical instruments of high quality from the early days of the Society – were allowed to set out a stall as an experiment. If it should prove useful and inoffensive, such displays would continue but if members were unhappy about this, or other firms sought the same privilege, the position would be reconsidered.

By 1963, the academic status of neurosurgery in the UK was raised by the President, Rowbotham, who noted that there was only one chair in the country (Edinburgh, presumably). The matter was referred to the Advisory Council who

concluded that it should be left to individuals and their universities, as, indeed, it was.

In the same year there was an inquiry into the problem of senior registrars and registrars. There were not enough of the former to fill expected vacancies for consultants in the next ten years and one-third of the first category and half of the second were from overseas. These apprehensions contrast with the position ten years earlier when the problem was of time-expired senior registrars for whom no consultant vacancies existed. It was also thought these recent figures showed there was difficulty in attracting British graduates to the specialty and that something more than a large volume of work and, therefore, of experience were needed to attract trainees: certain facilities such as libraries, laboratories and encouragement to develop a special interest, for instance. Rotations between teaching hospitals were thought to have much to be said for them but were often impossible because of the domestic upheaval involved. Subsequently, McKissock[48] expressed the view that the training of British graduates should be the aim and that there should be no further increase in neurosurgical units in London. (There were 16 units, or hospitals with at least some sort of neurosurgical appointments in London: Oldchurch, the London, St Bartholomew's, the National, Maida Vale, the Middlesex, UCH, the Whittington, the Central Middlesex, St Thomas's, Charing Cross, Atkinson Morley's, Guy's Maudsley, Westminster, the Brook and St. Mary's.)

It was thought that neurosurgery was an unattractive specialty and, to look into the matter and suggest remedies, a sub-committee consisting of Alexander, O'Connell and Johnson was set up. This committee was established around the time of the appearance of the Holdsworth Committee (see below) and its initial report.[49] It is discussed below with the introduction of training schemes.

In 1965 another questionnaire was circulated, this time dealing with the broad topic of neurosurgical services in the United Kingdom. The result was a report,[50] which examined the extent of neurosurgery in the United Kingdom (40 centres,

35,569 patients and 25,323 operations, major and minor). The largest turnovers were at Atkinson Morley's Hospital (2,110 admissions and 1,331 operations) Edinburgh (2,448 admissions) and Glasgow (1,947 admissions).

The report,[49] written by Pennybacker, covered the accommodation, theatres and the provision of nurses, anaesthesia, neuroradiology and neuropathology. He expressed satisfaction at the progress made since the previous report in 1957 in providing improved services throughout the country.

The shortage of local junior staff remained a problem. It was felt that a possible reason why neurosurgery was not attractive to British graduates was that they now tended to be married.

There seemed to be some anxiety that there were not enough registrars of British origin and that there would be not enough consultant posts jobs for senior registrars when they finished training. On the other hand, if the number of senior registrar posts were reduced, the field from which consultant posts would be filled would be smaller and the choice thus limited. In a closed system such as the NHS, it is difficult to see how the second of these problems could have been solved except by filling service posts from overseas, with a guarantee that the trainees would return to their own countries, or emigration.

Absence of research was the other complaint.

As a result of the submission of this report to the Ministry of Health, the Chief Medical Officer Sir George Godber agreed to a meeting with representatives of the Society on 13 October 1966. The above points were raised but the conclusion reached about the meeting was that it had accomplished nothing except to establish some sort of contact with the senior officers of the Ministry, to whom various problems had been aired.

In 1966, the Society made a submission,[51] apparently largely written by Pennybacker, to the Royal Commission on Medical Education, the deliberations of which were subsequently named the Todd report after its publication in 1968. In it they made a plea for the inclusion of neurosurgery, as a part of neurology, in undergraduate teaching and the recognition of neurosurgical house appointments as suitable for pre-registration posts. Giving undergraduates a taste of the subject was seen as important for subsequent recruitment into the speciality and the practical nature of neurosurgery was compared, favourably, with the medical variety, the emphasis of the latter being on eponymous syndromes and diseases, the names commonly being foreign.

On 2 December 1966, a dinner to celebrate the 40th anniversary of the founding of the Society was held at the Athenaeum Club, in the same room as the original. The event was attended by office bearers and members of the Advisory Council. Of the founding members, the only one present was Dott. Learmonth and McConnell were unable to attend because of weather conditions.

A committee (A Paterson, P Harris, A Richardson) set up by the Society submitted a report[52] to the business meeting at Preston in May 1967 on the establishment of a National Neurosurgical Nursing Certificate. This found much support for the idea.

An extensive questionnaire on the functions of the district general hospital was completed and returned,[53] in May 1967, to the Ministry by the Secretary, J Pennybacker. The Society thought peripheral outpatient neurological clinics could provide adequate neurosurgical advice and would be of more value than a neurosurgical outpatient clinic. It also favoured rehabilitation units in district hospitals, to which postoperative patients could be returned. It was in agreement with suggestions that district general hospitals should help in undergraduate, and be centres for postgraduate, medical education and be involved with nursing training and that of other 'professions supplementary to medicine'.

During 1967, the question was raised of whether the American Board of Neurological Surgery would recognise a year spent in a neurosurgical unit in the United Kingdom as a part of training. It had appeared, from discussions during the New York meeting with the Neurosurgical Society of America, that the board thought American trainees would not get sufficient clinical experience in this country but that it might reconsider its decision. The result was a visit to the UK by Dr Guy Odom and Dr Hunter Shelden, who inspected a number of units. Odom and Shelden sent a letter in May 1968 listing the units that had been approved unanimously by the American Board, and it was suggested that other units might apply for recognition. The centres listed were Bart's, Maida Vale and Queen Square, Guy's and King's College, Atkinson Morley's, Oxford, Cambridge, Newcastle, Edinburgh, Glasgow, Sheffield, and Birmingham (Queen Elizabeth Hospital and Midland Centre for Neurosurgery).

The SBNS, the Royal College of Surgeons and the Training of Surgeons

Early in 1959 the Royal College of Surgeons set up a committee on the training of surgeons, consisting of Lord Brock, Hedley Atkins, Ian Aird, Harold Edwards, FAR Stammers and Sir Harry Platt. This, by 1960, had become the Standing Committee on the Training of Surgeons. A director of surgery was also proposed to implement the College's policy on higher surgical training, ie training after the acquisition of the Fellowship. The committee was initially to have three members from the College Council, 13 from the regions – of whom 6 should be general surgeons and 6 representatives of specialties – and have an observer from the Ministry of Health. The number of regional members was increased to 15. The representative for neurosurgery was G Rowbotham.

The committee in both its forms reported regularly to the Council and by August 1961 was approving hospitals for training purposes according to set principles or criteria. In 1962 it put forward criteria for recognition of consultants, which,

for neurosurgery,[54] included two years of general surgery and six months of neurology, the last suggesting that the criteria were influenced by Pennybacker's paper of 1961 (see below). By 1964, certificates of completed training had been approved. All this seems to have concerned general surgery only.

The first step in the introduction of training schemes for the specialties was initiating by the British Orthopaedic Association (BOA) in 1962. A BOA committee under FW Holdsworth reported on the training of specialist surgeons and argued that "Now is the time to nationalise surgical training and to approve the institution of specialist diplomas".[55] Holdsworth, in describing the situation prior to the introduction of training schemes, said that "The young man is left to acquire what experience he can [...] No attempt is made by any recognised authority to ensure he has a proper series of appointments which will give him wide experience". The committee, set up by the Royal College of Surgeons of England and containing representatives of the surgical specialties, including neurosurgery, met five times between 1964 and 1966. The first reference to it in the College Council minutes is of Holdsworth himself reporting verbally (on 4 August 1966) on a recent meeting of his committee with representatives of the specialist societies. It first appears in the SBNS minutes of 25 July 1964[56] when a preliminary report from Alexander and O'Connell is mentioned, though the document referred to is not preserved. They had appeared as representing neurosurgery at the Holdsworth Committee. The main point mentioned as having been discussed was rotations.

However, its course can be traced in the minutes of the BOA. The Holdsworth Committee had been set up in 1962; by May 1964, the Memorandum,[49] the contents of which are discussed in the next chapter, had been written and Holdsworth thought that the Ministry of Health would look on its proposals favourably. By January 1965 it had been agreed to by "all the major surgical specialties". The memorandum, *Training in Surgical Specialties*,[49] referred to afterwards as the Holdsworth Memorandum or Report, was drawn up in conjunction with representatives from other surgical specialties and agreed to by them, and was to

be circulated to individual specialist associations 'from whom no opposition was anticipated'.

By September 1966, the Royal College of Surgeons of England had given unqualified approval to the scheme and it had been agreed that the Fellowship was required for the starting of training, a requirement that seems to have been altered, as the BOA later suggested that it could be taken at any time during the period of training but certification could not be awarded until the FRCS had been achieved. Standing committees for each specialty should be set up. Most of the training was to be done at a senior registrar level and there would be a tutor responsible for each trainee.

By September 1967 all the surgical colleges had accepted the proposals and the English College had agreed that a postgraduate training committee be set up with two members from each association and two from the council of each college. The specialties would each have a standing committee of three members from its association and two council members. The latter committee would make recommendations on individual candidates for certification.

Thus the basis of a training system was set up. Reservations remained in the Society about the certification and about what effect such a training scheme would have on the staffing of hospitals not approved for training. Up to this point, no mention is recorded of a specialty examination as a method of certification.

The SBNS, Specialty Training and the Holdsworth Committee

The report, already referred to, of the Planning Committee (1945–1947) under the chairmanship of Hugh Cairns as President of the Society, had made mention of the training of neurosurgeons and put forward suggestions as to how it should be undertaken.

In about 1947 Cairns had actually suggested[57] to Campbell Connolly, who had just returned from service with No. 4 Mobile Neurosurgical Unit in Italy and a spell in India after the war ended and was now marking time at Bart's after obtaining the Fellowship, that he should come to Oxford and enter into a training period lasting some years.[57] This would presumably have been the first such training programme in the UK, but Connolly was offered a consultant post at Belfast at the same time and this was more attractive than the prospect of the rigid discipline of working in Oxford with Cairns. He could still remember the anxiety felt by the house surgeon at St Hugh's before the weekly ward round, at which he was expected to have complete knowledge of the patients and their tests but was not allowed to look at the notes. The training programme outlined by the Planning Committee therefore had no results at the time.

The SBNS's renewal of interest in the need for organised training and, perhaps, their appreciation of the significance of what the College was doing, is evidenced in 1961, when Pennybacker was asked to give his opinions on the way in which a neurosurgeon should be trained. This request was precipitated, according to Pennybacker himself, by the impending publication of a book on the training of a surgeon. It seems likely that what Pennybacker was referring to was Professor Ian Aird's book, *The Making of a Surgeon* (London: Butterworth & Co; 1961), which was published in that year and was used by the committee later set up by the SBNS in 1964 to consider the matter.

Pennybacker's original memorandum[58] favoured a preparatory period of house jobs in medicine and surgery, which would include six months in neurosurgery, followed by the taking of the primary Fellowship. Then there were to be two to four years as a registrar, mainly in general surgery, one year of which should be after the Fellowship. This preliminary period was thus to be of four to six years. The second stage, that of training in neurosurgery itself, should include six months neurology if possible, six months as a resident house officer in neurosurgery, two to three years as a registrar, encompassing four to six months caring for head injuries, and three to five years as a senior registrar. No specific

time was allocated either to the obtaining of the primary or the final Fellowship or of attending courses for this purpose, though these existed at the time. The whole involved a period of between 10.5 and 12 years, considerably more than the 4.5–8.5 years suggested in the Planning Committee's original document. The emphasis on a long period in general surgery is striking, and even at the time some candidates were inclined to think it excessive, a view expressed by some in the BOA a little later.

Pennybacker's paper was considered at a business meeting of the Society in May 1961, when it was recommended that a prospective trainee should have done two to three years of general surgery and should have the final Fellowship, and that two years as a registrar and three as a senior registrar should be adequate to qualify for a consultant's post. However, the Society decided to make no formal proposal on the matter.

In 1964, perhaps because of anxiety that neurosurgery was an unattractive specialty and there was a shortage of suitable applicants for senior registrar posts, perhaps also because of the activities of the Holdsworth Committee, the SBNS set up a committee of its own to consider training in neurosurgery. The committee met in Oxford for the first time on 19 June 1964, with Alexander, O'Connell, Johnson, and Pennybacker present. In drawing up its recommendations it used four sources: Professor Ian Aird's suggestions in his book, *The Making of a Surgeon*, the report made in 1961 by Pennybacker to the Society, a report from the Royal College of Surgeons of Edinburgh entitled *The Training of Surgeons*, and the memorandum from the BOA Holdsworth Committee, which, clearly, had produced something on paper by this time.

The Holdsworth Report, which had been widely circulated by the middle of 1965, advocated a scheme of rotations for specialist trainees. Before taking the final FRCS, which was to be prerequisite for entering a training scheme, the candidate would do a year in general surgery, six months in accident and emergency work, the same in a specialty and a further year in 'an approved post'. For

training after the Fellowship, which would last three or four years, programmes would be submitted by the specialist societies for approval by the colleges, who would control the process. A diploma would be awarded at the end of successful training, though not by examination. Overseas candidates would be admitted if their background suggested they were of the standard implied by FRCS qualification. There should be some flexibility in the training period to allow a spell overseas, and a trainee should be ready for a consultant appointment by the age of 32 or 33. In fact, throughout the fifties and sixties, it was unusual for a consultant to be appointed before he had obtained the age of about 37, which would, up to 1960, have included two years' compulsory national service. An important principle in the Holdsworth Report was that the trainee should be appointed to a pre-arranged rotation, thus avoiding the necessity of trying to find another position at the end of each six-month stint, with consequent waste of time and energy.

The SBNS Training Committee, in due course, produced its own plan, sketched first at Oxford and later elaborated upon.[59] In its final form, it appears, undated, among documents in the minute books in 1967. Meanwhile, the Holdworth Committee, with representatives from the specialties (O'Connell and Alexander, in the case of the SBNS) and supported by the Royal College of Surgeons, was pressing ahead with its plans.

The SBNS scheme proposed at Oxford was for a training programme lasting about nine years from qualification and was, as with other such schemes, divided into two: basic training, including the acquisition of the FRCS, with more general surgery afterwards; and then specialist training. O'Connell opposed rotations, thinking continuous general surgical experience better, but Johnson was in favour. Alexander thought the rotating scheme would make it difficult to man some departments in the junior grades, though he didn't say why – probably it was because it would remove casual candidates seeking six-month appointments. Pennybacker, who had done three years in neurology at Queen Square between 1933 and 1936, regretted the rejection of his suggestion that six months in

neurology should be a part of a training scheme. All the members opposed a diploma or certificate of completion of training.

The SBNS did not like some of the suggestions put forward by the Holdsworth Committee. The matter was discussed at a meeting at the home of the President, JEA O'Connell, on 19 February 1965.[60] There was an acceptance of rotations in spite of the reservations of O'Connell, who maintained the value of a continuous period doing general surgery. But the meeting was opposed to the issuing of a diploma of completion of training, and raised the slightly surprising objection that such a document would not distinguish between a very good trainee and one who had only just scraped through – 'narrowly escaped being kicked out', in the words of the minutes. Though other specialties had accepted certification, the SBNS members subsequently rejected the issue of a diploma by 20 votes to 2 at a business meeting at Sheffield in May 1965. There was reluctance to agree to the inspection and certification of units as suitable for training schemes because it was feared that this would result in the removal of junior staff from some units – it was thought that even the Department at Queen Square might have difficulty in qualifying because it could not offer enough experience in trauma – and most units would offer virtually none in spinal injuries. (In practice, rotations solved the first two problems and the last proved not to be one.)

It was the Society's view that all existing neurosurgical units were suitable for registrar training, though it was conceded that some restrictions might have to be imposed on where senior registrars could be appointed. There was also a perception that the Royal College of Surgeons was trying to usurp the functions of the SBNS in deciding on the suitability of units, though up until then the Society had not done anything concrete about organising training other than to produce the scheme in the report of 1945–47 and Pennybacker's paper of 1961, which had been put aside. The mood of the Society when confronted with an attempt to organise and systematise training is reflected in the opinion that "a cynical view thus got about that this was a move on the part of the orthopaedists to enlist a

pairs of hands in their training programmes to meet the great difficulty they were experiencing in getting junior staff".

Pennybacker, the secretary, wrote to Holdsworth on 11 June 1965[61] expressing the views of the Society on rotations (in favour), inspection and designation of departments and hospitals (all present registrar posts were regarded as satisfactory but some senior registrar posts were not, because of lack of academic amenities) and a diploma of completion of training (rejected as valueless and, anyway, the Society was so compact that it could look after the matter itself). Nevertheless, the Holdsworth scheme went forward.

An informal meeting was held 12 July 1966[62] between the Holdsworth Committee and Northfield and Alexander, representing the SBNS. All the specialties had supported the new proposals except plastic surgery, paediatric surgery and neurosurgery, the last being opposed to a diploma or certificate. At this meeting it was said that the Royal College of Surgeons proposed that a standing committee for each surgical specialty be set up and should consist of three senior members of the speciality and two members of the College Council. Its powers were to be:

» To assess and recommend the designation of centres suitable for senior training in the specialty.

» To prescribe a course of specialist training and to assess the qualifications of each 'completed' trainee.

» To recommend suitable candidates for a certificate to be granted by the RCS indicating that the holder had satisfied the RCS requirements for training in that particular specialty.

» To review the trainee/consultant ratio at, say, yearly intervals and to report their views to the College.

On 18 February 1967 Northfield, Gillingham, Johnson, Pennybacker and O'Connell, as neurosurgical representatives on the Joint Standing Committee of the Royal College of Surgeons, met to consider the training of a neurosurgeon.[63] The aim was to prepare a paper outlining a training programme that would go, via the SBNS Advisory Council and the Society itself, to the College. Johnson was in favour of rotations but not of the Holdsworth recommendations, which he thought encroached on the ground of SBNS. O'Connell, who had attended most of the meetings of the Holdsworth Committee, was 'disillusioned' with it and could see no advantage in closer association with the College. He was against registration of trainees at the beginning of training and certification. Gillingham expressed modified support for the suggestions, including training programmes, the designation of suitable centres and certification, though he thought there were deficiencies in academic and research activities that would have to be corrected if overseas trainees were to be attracted. Northfield was surprised at the hostility and favoured giving the recommendations a trial.

Certification, which seems to have attracted special antipathy, was seen by some as something overseas trainees needed when they returned to their own country. On the other hand, many of them spent less time in training posts than indigenous trainees. It would therefore be necessary to issue a certificate to the first earlier than to the second. This certainly posed a practical problem but not one of principle. In fact, certificates were at one stage printed to issue to candidates wanting them.

The committee then considered and amended the document *Training in Neurosurgery*.[59] It recommended a year's residency to begin with, exposure to neuropathology both microscopic and in brain-cutting sessions, and experience in neurophysiology and electroencephalography. About six months in an accident unit dealing with head and spinal injuries was recommended. It was hoped that the trainee would make full use of the library and do some teaching. Research was to be encouraged. The senior registrar post was thought not definable in terms of the length of time the trainee had been in neurosurgery before

becoming eligible, though two years seems to have been the expected minimum period. The time in the post was to be spent increasing the trainee's experience and the responsibilities he or she would be expected to bear. Rotations between neurosurgical units were to be encouraged at both registrar levels.

It is noteworthy that, in spite of all the discussion, the question of an examination in neurosurgery at the end of training, rather than the disliked certificate, seems only to have been raised once, in a letter from Professor Brodie Hughes to Pennybacker,[64] though it might have seemed an obvious end-point to an organised training scheme and an effective way of encouraging recourse to a library.

In spite of this opposition and criticism from the SBNS, by 9 March 1967 a Joint Committee on Higher Surgical Training had appeared at the Royal College of Surgeons. At a meeting of the SBNS Advisory Council on 30 July 1967, most members thought that there was little to be gained from opposition to the idea of a certificate of completed training. Brodie Hughes, in a letter, strongly supported it. Anxiety about designation of centres suitable for training was again voiced.

By 14 December 1967, specialist advisory committees for higher surgical training had been accepted and there was a Central (later changed to Joint) Committee for Higher Surgical Training whose powers were to designate proper training posts, keep an eye on trainees and grant a certificate of specialist training.

Establishing a Specialist Advisory Committee in Neurosurgery

The Specialist Advisory Committee (SAC) in neurosurgery consisted of three members elected by the Society – Northfield, Pennybacker and Gillingham – and two further members 'alien to the specialty', who were yet to be appointed. But the last provision was changed by the surgical colleges and two further neurosurgeons, Lanigan and Jennett, were appointed by the College. Northfield

was elected chairman. They considered the regulations proposed by the royal colleges.

The period of training was to be five years but the SAC hoped it could be shortened to four. A number of suggestions or comments were made, including that "neurology" should be called "medical neurology" to conform with the term "surgical neurology" adopted by Dott from the beginning and favoured still in Edinburgh. Training schemes of fixed duration required that "at the end of training a man must find a consultant post or the other trainees in a larger department might be blocked. This might cause some problems in neurological surgery". Another problem was what overseas qualifications would be accepted in candidates not wishing to do the FRCS.

The neurosurgical SAC met on 3 April 1968 at the Royal College of Surgeons of England and, subsequently, in Edinburgh on 24 April.[65] It thought that sooner or later recognition of centres for training would be required and the Society ought to start considering this. There had, of course, been much opposition to this requirement in earlier discussions. It was commented that almost everyone would be recognised retrospectively when registration started.

The training scheme, which had been submitted to a ballot,[66] specified that entrants must have completed the requirements for the final Fellowship and enter an approved unit. A year of residency was now regarded as desirable but not obligatory. At least two years must be spent as a senior registrar. Other suggestions were that a period of research of two years might be approved as well as a year outside the UK. Stipulations were made about the qualifications required from trainees from countries outside the UK.

In the records of the next meeting of the SAC, dated 8 January 1969,[67] Gillingham, Jennett, Logue, Pennybacker and Lanigan were noted as present. The document sets out the regulations for a five-year training scheme along the lines already discussed, but includes a comment that not all units would be approved

for whole training and there would be a second grade, approved only for part, eg one year. A certificate of training would be granted at the end, not by examination but following a favourable report from the surgeons who trained the candidate. Application forms for recognition of units as certified training centres were also published.

Thus, by this time, the details of a formal training scheme had been established and accepted by the SBNS, in spite of doubts and fears. McKissock had been President during the latter stages. However, the matter was not entirely settled as far as the SBNS was concerned. It was discussed at an Advisory Council meeting on 29 March 1969 and then at a full business meeting on 29 May[68] at the Royal Society of Medicine, when John O'Connell had become President. In introducing the discussion he stated that the principles of certification and registration had been agreed by the Society but that the question of inspection and approval of units was quite new. Bryan Jennett said it was something of a fait accompli, other specialties having agreed to the proposals, and that the form for registration of a unit had been based on that of the orthopaedic surgeons.

The views of a number of members are recorded in the minutes. Generally, though not wholly, they are critical or apprehensive, mainly on the grounds that the Society would be losing control of its own specialty and that some of the smaller or newer units might be regarded as second-rate because they would not qualify as complete trainers. Two people, J Small and Brodie Hughes, mentioned the question of there being an exit exam on completion. Small suggested dropping the FRCS altogether and having a separate diploma while Hughes favoured having the FRCS as an exit exam. This meeting was the cause of dissension appearing later between the President and Bryan Jennett.

In June 1969, Richard Johnson wrote a paper[69] asserting the right of the SBNS over that of the Royal College of Surgeons, "a body which had shown little interest in neurosurgery", to be responsible for training and standards in the

speciality. This paper exhibits marked hostility to the organisation of training programmes by the RCS, and is strongly opposed to change.

At an Advisory Council meeting on 29 November 1969 it was decided to obtain the views of the senior registrars, who all wrote letters of agreement (Newcombe, Cross, Douglas Miller, Hide, Uttley, Illingworth, Buckley, Miles and Cummins). They undertook a questionnaire and the Advisory Committee arranged a meeting with them to discuss the questions of inspection and approval of training units.

The questionnaire included questions such as whether a period of training in general surgery was essential or, at the other extreme, useless and whether there should be a higher examination in neurosurgery. Though the majority thought some training in general surgery was essential, there was a division of opinion on whether there should be a neurosurgical examination or whether the general Fellowship should suffice. A recommended training period of less than the five years was preferred. Many other suggestions were made.

At the Advisory Council Meeting of March 1970 trouble arose with a letter[70] from Jennett to the President, J O'Connell, dated 30 January 1970. What precipitated this letter, which appears to refer to the business meeting of May 1969, is not clear but Jennett complains of the way in which O'Connell had conducted the meeting, – apparently he (O'Connell) had called upon him (Jennett) to give a report of the negotiations in the SAC concerning neurosurgical training, without giving him any warning. Jennett compares the proceedings to a judge taking the defending barrister's concluding speech first, then the witnesses' and then the prosecution's closing speech. Nothing of this trouble is hinted at in the minutes of the meeting but it is implied in Jennett's complaint that he had suffered heavy criticism during the meeting, presumably because he favoured the training schemes.

The Advisory Committee's response to Jennett was to instruct the secretary, J Potter, to write to him to say that they supported the way O'Connell had conducted the meeting Jennett had complained about, that they resented the tone of Jennett's letter and that they had no confidence in him as a representative of British neurosurgery and demanded that he resign from the SAC, though he had not been appointed to it by the Society but by the RCS. Potter ended with an apology for having to write the letter.[70]

By May 1970, the Advisory Committee accepted the draft training scheme from the SAC with amendments, but also insisted that the Society should control training and complained that the composition of the SAC was not what had been agreed to. The fear that the RCS would take over training through the neurosurgical SAC was apparent, even if only two of its number had been appointed by the RCS and, including these two, it consisted entirely of members of the Society. Another complaint, mentioned in an introductory address to the business meeting in June 1970, was lack of flexibility,[71] though what constituted flexibility was not clearly set out. It was decided to seek a meeting with the President of the Royal College of Surgeons.

Documentation of preparations for a meeting with the President of the Royal College of Surgeons, Thomas Holmes Sellors, on 17 December 1970 include two undated items,[72] one being headed *Some Notes for our Meeting with the PRCS*, unsigned but almost certainly by Richard Johnson, and the other headed *Higher Surgical Training (Neurological Surgery): Memorandum to the President of the Royal College of Surgeons* and has the names of the President (R Johnson), Vice-President (J O'Connell) and Honorary Secretary (J Potter) of the Society of British Neurological Surgeons at the bottom.

The first outlined the Society's objections to inspection and approval of units, to both of which it was opposed, regarding them as unnecessary because neurosurgical units were so much smaller than, say, orthopaedic ones. Certification was regarded as nonsense though it was conceded that certificates would not

be objected to if they were issued by the SBNS itself. On training it made some positive suggestions, including that training should be of three years' duration both for local and overseas trainees. Some observations were made on miscellaneous matters such as that the Specialist Training Committee had widened its field beyond training and that neither the Scottish colleges nor the professors of surgery should be allowed to exert undue influence. Finally, it made reference to the RCS's having appointed two members of the SAC over its head, in one of whom the Society had expressed no confidence – that being, presumably, Jennett.

How much of this paper was presented to the President is not recorded but there is a short summary later of "a wide-ranging discussion". This makes only three points.

1. There was plenty of time to reach agreement with the Specialist Advisory Committee. (Registration of trainees was, in fact, due to start within weeks, on 1 January 1971.)

2. The Specialist Advisory Committee had never intended to dictate to the specialist societies.

3. Clarification was needed on the optimum numbers of senior registrars and the position of overseas trainees.

The last item reflects the chronic problem of junior staffing and the surplus of trainees over consultant posts. The connection with the matter of organised training seems to be, firstly, that with the introduction of the latter, a reduction in the number of senior registrars seems to have been suggested and, secondly, overseas trainees might well not stay long enough to be entitled to full certification, but needed something to show for their period in the UK when they returned home.

By the time the meeting of the officers of the Society with the PRCS took place, the Joint Committee of the Colleges had met (28 October) and decided that enrolment of candidates for training should start on 1 January 1971, after which date only enrolled trainees would be given certificates – ie you had to enrol if you wanted a certificate. Those already in training would be awarded one on merit. No examination was required, the certificate being awarded on the basis of time spent in training in a senior registrar post and examination of a candidate's logbook recording operative experience.

Thus by the beginning of 1971 a plan for a training scheme supervised by a Specialist Advisory Committee had been accepted, somewhat reluctantly it would seem, though the details were not finalised and the questions concerning certification and an exit examination in neurosurgery before the granting of a certificate had not been agreed upon.

By October 1975, the SAC was reporting on visits to departments seeking accreditation.[73]

9
The 1970s and Beyond

Some Technical Developments and an Anniversary

The 1960s saw the introduction of a most important operative development in neurosurgery: the operating microscope. In the early part of the decade, Krayenbühl in Zurich, who had been a disciple of Cairns and a member of the Society since 1936, had sent his assistant G Yasargil to work for a period with RMP Donaghy in Vermont. Donaghy had been introducing this tool into neurosurgery and had started to develop the instruments and the refinement of technique that it allowed and needed. This work was developed by Yasargil on his return to Zurich where he organised, in 1968, an important meeting that attracted surgeons from elsewhere in the world who had been developing the technique or were introduced to it by this gathering.

At the spring meeting of the Society, in April 1973 at Atkinson Morley's Hospital, David Uttley read a paper entitled *A Fundamentally Different Approach to Radiological Diagnosis – Computerised X-ray Scanning*. This was the introduction of computerised axial tomography – CAT scanning (later reduced to CT) or EMI scanning as it was called at the time – the imaging technique developed at EMI (Electrical and Musical Industries, a producer of gramophone records and owner

of the old record label, HMV). The method had been the work of Geoffrey Hounsfield – it later won him a Nobel Prize – and it was first put on display in April 1972 at a meeting of the British Institute of Radiology. The first instrument to enter clinical practice had been installed at Atkinson Morley's Hospital under the direction of James Ambrose. This was the genesis of the revolution produced in clinical neurology and neurosurgery by electronic imaging methods and was soon followed by developments in MRI scanning which also resulted in the award of a Nobel prize.

In 1976 the 50th anniversary of the foundation of the Society was held at the Birmingham meeting. Joe Pennybacker was induced to give a Cairn's Lecture for the occasion and presented a history under the title of Fifty Years On.

An Exit Examination and a Specialist Fellowship

The establishment of a specialist fellowship in neurosurgery was, to start with at least, a separate matter from that of organised training schemes, and the Society was less directly concerned with its evolution. It was obvious that such a qualification by examination might be used as a method of certification of completed training, but the idea and its accomplishment followed different courses.

It had long been dogma among those trained in a British system – and perhaps more widely – that all training should be based on a grounding and examination in general surgery. Evidence for this was the possession of fellowship of one of the three royal colleges of surgery or the Royal College of Physicians and Surgeons of Glasgow. This examination could be taken at any time during training and it was often the case, especially with overseas candidates, that it was an entrance examination that would allow them to gain experience in registrar posts in this country. It was, of course, a requirement for appointment as a consultant and so might also be regarded as an exit exam of sorts. Failure to achieve it

would prevent a surgeon with considerable experience, say during the war, from obtaining a consultant post.

The view that specialist training should require much time mastering general surgery survived until quite late into the twentieth century in the UK. It was probably, in part, due to the de facto establishment of the FRCS as an entry examination into surgery as a whole.

The development of specialist fellowships was resisted by the colleges, probably because of the predominance of general surgeons in these organisations, though in the specialities themselves the idea also persisted in some quarters that general surgery was the basis of specialties. This was the case not only in the UK but also in countries under its loose patriarchy and was in contrast with the United States where, from 1937 (1940 for neurosurgery), surgical board examinations had been established for those practising a specialty and, though not compulsory, were an indication of completed and supervised training.

The Australasian College of Surgeons had accepted a fellowship in certain specialties as early as 1954, provided the candidate had a general fellowship from an accepted college and, by 1962, had dropped the requirement for a general fellowship,[74] thus initiating certification in a specialty, though, to start with, the examination was not essential for acceptance as a specialist.

It was the Edinburgh College, influenced by Professor John Gillingham in the case of neurosurgery, that initiated specialist examinations in this and other surgical specialties in 1979.

R Johnson-Gilbert, Secretary to the Joint Committee on Higher Surgical Training at the Royal College of Surgeons of England, circulated a letter[75] in early 1972 presenting suggestions that had been made to the committee concerning incorporating specialty surgical training into the fellowship exam: whether things should continue as before, with the fellowship being an entrance examination

and the completion of specialist training being indicated by a certificate from the relevant SAC; whether it should be deferred till the end of training and thus act as an exit exam; or, as a third alternative, whether the general fellowship should remain where it had been, at the beginning, and a further, specialist examination with the award of an additional title should be taken at the end of training. The pros and cons of these three suggestions were discussed by Gillingham, in his letter of response[76] (dated 1 February), to Potter, SBNS Secretary at the time. Gillingham said the FRCS needed to be changed, as he considered general surgery to have largely disappeared and much of the detailed knowledge required for the Primary to be of little value to a specialist (neurosurgeon, he presumably meant). He favoured an early general exam to replace the primary, to be taken by all surgeons and called 'The Principles and Practice of Surgery'. It presumably would have included some clinical material as well as basic sciences important to surgeons in general, including some of what had gone into the old primary, and would result in a first diploma and the general fellowship, whatever it was to be called, with second exam at the end of training. The last would include basic sciences relevant to the specialty as well as clinical knowledge. This would mark the end of training, which would differ according to the specialty in which the candidate had trained. The award would therefore be an exit exam, indicating completion of training with the award of a specialist diploma.

Gillingham thought that a formal assessment of a trainee's knowledge towards the end of training ought to be required and that the examination would also be useful to overseas candidates who would find it difficult to obtain one of the senior registrar posts, the holding of which was, almost, a requirement for application to a consultant post in the NHS. They needed some evidence of training when returning to their own countries.

The Edinburgh college introduced a specialist examination in neurosurgery in 1979.[77] The innovation encountered considerable resistance in both the colleges and the SBNS, even breaking friendships, and it was also unpopular with the trainees since it meant a third examination in surgery, albeit a voluntary one. It

was judged by a professor, Lawrence Levy,[78] who took the exam, as being an effective method of assessing a candidate's knowledge but it involved a fee, an ordeal, a risk of failure and, as a consequence, loss of face for the candidate, who was under no obligation to accept any of these.

Still, by 1986 it had been held 13 times, had been taken by 31 candidates and had a pass rate of 65%.[77]

Though the Edinburgh exam was not generally adopted, the surgical royal colleges came to accept that the general fellowship needed to be modified to provide those training in a specialty with a qualification that acknowledged which branch of surgery they were to practise.[79] A joint (intercollegiate) committee of the four colleges was set up to consider how the fellowships should be altered to offer a one-part examination to provide a diploma indicating completion of basic training. There was to be no alteration in entry requirements but changes would require an abandonment of the original primary examination, with its concentration on basic sciences such as anatomy, to be replaced by a single introductory examination including a multiple-choice paper, essay questions and oral and clinical exams, all covering basic sciences and general principles of surgery, leaving the final examination as an exit exam, to be taken in the candidate's chosen specialty. This is clearly almost the same as Gillingham had originally suggested.

The Joint Meeting of the Surgical Colleges (subsequently The Joint Surgical College Meeting or JSCM), comprising nominations from the four surgical colleges and the specialty associations, was set up to supervise the new examination and first met in December 1984 with the intention of introducing a two-tier examination by 1990. By early 1987 specialty boards had been set up in urology and plastic surgery. In all, nine specialty boards were established. The Surgical Neurology Board held its first meeting on 10 February 1989. Board members included Mr R Myles Gibson (Convener RCSEd), Mr Jason Brice (RCSEng), Mr

Derek Gordon (RCSI), Mr Rab Hide (RCPSGlas), Mr Huw Griffith (SBNS), Professor Douglas Miller (SBNS) and Mr Anthony Booth (SAC Chairman).

The Surgical Neurology Board was renamed to neurosurgery in 1998 in line with the Specialist Advisory Committee. The board was made up of representatives from each of the four surgical royal colleges, the SAC Chairman ex officio and two representative of the SBNS – this remains the constitution of the board. The secretariat was set up in Edinburgh to manage and provide support to the individual specialty boards and their respective examinations and continues to do so. Neurosurgery conducted its first examination in April 1991.

Organised Training Achieved

Thus, by the beginning of the 1990s, organised training in the specialty of neurosurgery had been established and those entering the specialty as consultants were provided with a diploma obtained by examination in the specialty that they were to pursue. This seems a convenient point at which to interrupt this account. Subsequent changes in the National Health Service, as it affected all specialties, moved in the direction of the managerial control of the medical profession, a subject upon which the present author does not feel competent to write an account.

The Role of the Society

The Society began, as Jefferson's account of its history emphasises, not only as a scientific or professional group but as much a social group of surgeons, struggling in a new and difficult field, where financial survival was bound to be a risky prospect in the absence of a health service and when facilities were not easily provided or obtained. Operations tended to be of a length not previously encountered, making theatre and anaesthetic demands hard to provide for.

The Society retained this social character, was indeed proud of it, for a long time. Jefferson attributed the advance and spread of neurosurgery in Britain to its effort though this is more difficult to demonstrate from the evidence in its archives. After the introduction of the National Health Service in 1948 and the appointment of a civilian adviser to the Ministry of Health, the Society had some sort of direct contact with the ministry and Jefferson and Pennybacker (see appendices), both advisers to the government, insist on the influence the Society had on the development of their specialty in the UK. Taken in conjunction with the close contact between members provided by Society meetings, this claim is easy to accept with regards to planning, though, ostensibly, the adviser did not represent the Society and merely gave advice when asked. Still, it would be surprising if influence was not exercised through the holder of the post.

The spread of units in the UK was a feature of the first 60 years of the Society and though it is not, perhaps, strictly a part of its history, a review may serve to end the first part of the history.

In brief, this process consisted of a rather piecemeal and unorganised expansion, first by the appointment of individual surgeons to hospitals, largely teaching ones, then by the consolidation of a proportion of these into units. A unit, to start with, tending to be the result when two or more neurosurgeons were appointed to a hospital. Towards the end of the century, unit numbers shrank as larger units formed, with ten or more surgeons and the necessary facilities concentrated in a joint neurological and neurosurgical centre.

The original sites of specialist neurosurgery were Edinburgh, Manchester and London – the London Hospital was added to Queen Square in 1928 with the return of Hugh Cairns from Boston. Individual surgeons, often general, did a little neurosurgery, sufficient for them to claim membership of the SBNS. Wakeley at King's and Dickson Wright at St Mary's were examples.

The spread of neurosurgical departments – meaning, early on, a hospital with a neurosurgeon on the staff – is roughly outlined by the venues at which meetings of the SBNS were held. (Until later in the 20th century, that is, when meetings largely moved from hospitals to conference centres and hotels.)

Before the war, Queen Square, the London Hospital, Dublin, Manchester and Edinburgh were the recurring UK sites. Aberdeen, The West End Hospital for Nervous Diseases, Guy's, UCH and Charing Cross were part-venues. There were meetings at Oxford (Sir Charles Sherrington) and Cambridge (EG Adrian) but there were no neurosurgeons at either venue at the time. In 1939, 1940 and 1941, after Cairns established himself, meetings were held at Oxford.

After the war, others venues started to appear. Leaving aside Hill End in 1946, an Emergency Medical Service (EMS) Hospital during the war (to which Bart's had been evacuated), Glasgow (Killearn) appeared in 1947, Newcastle in 1948, Birmingham (Queen Elizabeth and General Hospitals) in 1950, Leeds in 1952, Cardiff in 1953, Belfast in 1954, Bristol in 1956, Liverpool (Walton) in 1958, Guy's Maudsley in 1959, Swansea in 1960, Derby in 1961, Aberdeen in 1964, Sheffield in 1965, Atkinson Morley's Hospital in 1966, Preston in 1967 and Cambridge in 1972. By about 1990, the pattern of large units had been established, even in London, which had been the site of unorganised proliferation before and after World War II. Thus Westminster joined with Charing Cross, the Brook with the Guy's Maudsley at King's College, The London with Bart's, and UCH with the Middlesex. The future lay with the development of sub-specialisation (or fragmentation) in very large units and immensely expensive and effective diagnostic equipment.

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Abbreviations.

MB 1942–1963 – Minute book and years.

Arch. – Boxed material in archives.

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Appendix A

Numbering of Society Meetings

The constitution of the Society specified that two meeting should be held per year. They occurred in different centres, no doubt allowing members to see how others were progressing, and from early on foreign venues were a feature, the first being Paris.

Up until the hundredth meeting, there were four occasions when only one meeting was held in a year. There was no summer meeting held in 1929, no winter meeting held in 1949, only a spring one (Madrid) in 1951, and in 1971 one in September with the Spanish and Portuguese societies. In wartime, there was one meeting each year in 1940, 1941, 1942 and 1944. In 1943 there were two.

The venues of the meetings and their dates are recorded in the Society's handbook, the last full edition of which was produced in 1984. However, in this list, the meetings are not numbered. It would, however, be reasonable to assume that inclusion in the list indicated that the meeting counted as a Society one.

In 1957, the proceedings of the meetings started to be published in the *Journal of Neurology, Neurosurgery and Psychiatry* and here numbers were introduced, though there is the occasional exception (the Plymouth meeting of April 1979 has no number in the journal) and on one occasion, the same number, 86, was given to two meetings (London April 1974 and Bermuda November 1974) though this

was corrected and the correct numbering restarted. Apart from this, up until about 1975, the numbers given on the proceedings correspond with a count of those recorded in the handbook.

However, a problem arises when the 100th meeting is reached. It was actually celebrated three meetings later – as judged by counting in the handbook – in Dublin, which would, on the count, be number 103 if the list in the handbook of 1984 (the last to contain this information) is followed.

In looking for a reason for this, it is clear that what are listed in the handbook as the fifth European Neurosurgical Congress (Oxford, September 1975), the sixth European Congress of Neurosurgery (Paris, September 1979), the seventh International Congress of Neurosurgery (Munich, July 1981) and the seventh European Congress of Neurosurgery (Brussels, August 1983) appear on the list but not the published proceedings. After each of these meetings the sequence of numbering proceeds as if the meeting had not occurred and yields Cork as 100th and Charing Cross as 150th. It appears it was decided to ignore them, though they had been listed in the handbook and perhaps this was decided upon as the date of celebration neared.

There are some difficulties with this method of handling the problem for the third International Congress of Neurosurgery (Copenhagen August 1965) is still left as an official meeting and so is the second European Congress (Rome April 1961) though this was a part of the negotiations between the SBNS and the EANS at the genesis of that organisation. It seems best to ignore these anomalies.

These changes avoid the necessity, suggested previously, that various other meetings be declared extraordinary, something that cannot be reasonably applied to the 1936 Berlin and Breslau one, nor to the Zurich meeting of 1952. If these suggestions are accepted it follows that all other future international or European congresses should be not be included as Society meetings, even if they may

replace such a meeting in the sense of making one of the usual two per year, a number which has not been inviolate.

Revised numbering of meetings

11/8/2013

No.	Year	Time	Venue	Institute
1	1926	Michaelmas	London	Queen Square
2	1927	Summer	Manchester	Salford and MRI
3	1927	Michaelmas	London	London Hospital and UCH
4	1928	Summer	Edinburgh	University and RCS
5	1928	Michaelmas	London	Guy's, Queen Square and Charing Cross
	1929	Summer	No Meeting	
6	1929	Michaelmas	Oxford	Sherrington's Lab. And Radcliffe Inf.
7	1930	Summer	Paris	Hop. St Josef and 219 rue Vercinetorex
8	1930	Michaelmas	London	West End Hosp. and RSM
9	1931	Summer	Dublin	Richmond Hosp. and Trinity College
10	1931	Michaelmas	London	Med. Soc. London and London Hosp.
11	1932	Summer	Amsterdam	Welhemina-gasthuis
12	1932	Michaelmas	London	Saint Bartholomew's
13	1933	Summer	Paris	De Martel's Clinic
14	1933	Michaelmas	London	Queen Square
15	1934	Summer	Edinburgh, Aberdeen	Royal Infirmaries
16	1934	Michaelmas	Manchester	Royal Infirmary

No.	Year	Time	Venue	Institute
17	1935	Summer	Stockholm	Serafimer-laserattet
18	1935	August	London	Special combined meeting with American Neurosurgical Society and Harvey Cushing Society at Queen Square
19	1935	Michaelmas	London	London Hosp.
20	1936	Summer	Dublin	Richmond Hosp.
21	1937	January	London	Queen Square and RCS
22	1937	Summer	Berlin and Breslau	Univ. Neurosurgical Clinic Hansplatz and Kaiser Wilhelm Instit. Berlin. Neurological Institute, Breslau
23	1937	Michaelmas	Cambridge	Dept. Physiol. and Strangeways Research Labs
24	1938	Summer	Paris	Hop. de la Pitié and Salpétrière
25	1938	Michaelmas	Manchester	Man. Royal Infirm.
26	1939	Summer	Oxford	Radcliffe Infirm and Nuffield Instit.
27	1940	Michaelmas	Oxford	Radcliffe Infirm.
28	1941	Summer	Oxford	Radcliffe Infir.
29	1942	Summer	London	Queen Square
30	1943	Summer	London	Queen Square
31	1943	Michaelmas	London, Enfield	Chase Farm EMS Hosp.
32	1944	Michaelmas	Basingstoke	Canadian Military Neurosrgical Service, Hackwood House, Basingstoke
33	1945	Summer	Edinburgh	Ed. Royal Infir, and Bangour

No.	Year	Time	Venue	Institute
34	1946	February	St Albans	St Bart's Neruosurgical Depart. EMS Hosp. Hill End
35	1946	Summer	Oxford	Radcliffe Infirm.
36	1947	Michaelmas	Lisbon	Profs. E Moniz and A Lima
37	1947	November	Glasgow	University and Killearn Hosp.
38	1948	Summer	Dublin	Richmond Hosp.
39	1948	November	Newcastle	General Hop. and Roy Vict. Infir.
40	1949	July	London	Queen Square and UCH
	1949	Winter	No Meeting	
41	1950	May	Manchester	Man. Roy. Inf.
42	1950	December	Birmingham	Med. School, Queen Elizabeth and Gen. Hosp.
43	1951	April	Madrid	Combined meeting with Spanish- Portuguese Soc.
44	1952	February	London	Queen Square with ABN
45	1952	June	Zürich	Univ. Neurosurg. Clinc, Kantosspital
46	1952	December	Leeds	Gen. Infirm.
47	1953	May	Cardiff	Roy. Infirm.
48	1953	December	London	Queen Square with ABN
49	1954	May	Brussels, Louvain	Instit Bordet Institut Neurologique.
50	1954	December	Belfast	Roy. Vic. Hosp.
51	1955	June	Toronto	Combined with Canadian Neurol. Ass. and ABN
52	1955	November	London	Queen Square with ABN
53	1956	May	Stockholm	Serafimer and Southern Hosps.

No.	Year	Time	Venue	Institute
54	1956	November	Bristol	Frenchay and Unic. Engineering Dept.
55	1957	May	Dublin	Comb. with Irish Ophthalm. Soc. at RCP, Roy. Vic. Eye and Ear Hosp. and Anatomy Dept. Dublin Univ.
56	1957	November	London	5th Nov. London Hosp. 6th Nov. combined with ABN at Queen Square
57	1958	May	Wassenaar and Utrecht	Combined with Netherlands Society of Neurosurgeons
58	1958	December	Liverpool	Walton Hospital
59	1959	July	London	Combined with Canadian Neurological Society and ABN at RSM
60	1959	November	London	Guy's Maudsley NS Unit
61	1960	June	Edinburgh	Combined with Société de Neurochirurgie de la Langue Francaise, Western Gen. Hosp.
62	1960	November	Swansea	Morriston Hosp.
63	1961	May	Copenhagen	Dept. Neurosurg. Rigshospitalet
64	1961	November	Derby	Derby Roy. Infirm.
65	1962	May	London	St. Bart's
66	1962	September	Warsaw and Cracow	Combined with Section of Neurological Surgery. Polish Soc., Neurologists and Neurosurgeons

No.	Year	Time	Venue	Institute
67	1963	April	Rome	2nd European Congress organised by SBNS and Italian Soc, Neurosurgery
68	1963	June	London	Combined with Neuro-surgical Soc of Amer. at Queen Square and RSM
69	1964	May	Aberdeen	Univ. Med Buildings, Forester Hill
70	1964	September	Prague and Smolenice	Combined with Neuro-surgical Section, Societas MedicorumBohemslovenica JE Purkyne
71	1965	May	Sheffield	Royal Infirmary
72	1965	August	Copenhagen	3rd Int. Neurosurg Congress
73	1966	May	London	Atkinson Morley's Hosp.
74	1966	September	Dublin	Combined with Brit. Neuropath. Soc., Trinity College
75	1967	May	Preston	Harris College
76	1967	October	New York	Combined with Neurosurgical Soc. Amer.
77	1968	May	Coimbra	Combined with Societadde Neurocirurgia Luso-Espanola
78	1968	September	Glasgow	With ABN at Glasgow University
79	1969	May	London	London Hospital
80	1970	June	Cambridge	Combined with Deutsche Gesellschaft für Neurochirurgie at Lady Mitchell Hall

No.	Year	Time	Venue	Institute
81	1970	September	Hull	Combined with Nederlanse Vereniging van Neurochirugen at Centre Hotel.
82	1971	September	Newcastle	Combined with Societad de Neurocirugia Luso-Espanola
83	1972	May	Liverpool	Liverpool Medical Institution
84	1972	September	Oxford	Combined with American Academy of Neurological Surgery at St Cross Centre
85	1973	April	Southampton	Combined with ABN and British Soc. of Neuroradiologists at Medical School
86	1974	May	London	Queen Square and Great Ormond Street
87	1974	November	Bermuda	Combined with American Academy of Neurological Surgery, Southampton Princess Hotel, Hamilton
88	1975	May für Neurochirurgie	Midlesbrough	West Lane Hospital
89	1976	May	Amsterdam	Combined with Nederlandse Vereniging van Neurochirurgen, University Hospital, Welhelmina Gasthuis
90	1976	October	Smethwick	Midland Centre for Neurosurgery and Neurology

No.	Year	Time	Venue	Institute
91	1977	April	Bristol	Combined with Société Francaise de Neurochirurgie
92	1977	September	Dundee	Ninewells Hospital and Medical School
93	1978	May	Berlin	Combined with Deutsche Gesellschaft für Neurochirurgie
94	1978	September	London	Combined with ABN at RCS
95	1979	April	Plymouth	College of St Mark and St John
96	1980	May	Venice	Combined with Societa Italiana di Neurochirurgia
97	1980	September	Cardiff	University of Wales
98	1981	April	Bendor	Combined with Société Francaise de Neurochirurgie
99	1981	September	Sheffield.	Royal Hallamshire Hospital
100	1982	March	Cork *	University of Cork
101	1982	September	Leeds	University of Leeds
102	1983	April	Southampton	University of Southampton
103	1983	October	Liverpool	Adelphi Hotel
104	1984	April	Belfast	Queen's University
105	1984	September	Edinburgh	Combined with ABN at University of Edinburgh
106	1985	Spring	Granada	Combined with Spanish and South African Societies
107	1985	September	Swansea	
108	1986	April	Cambridge	Churchill College

No.	Year	Time	Venue	Institute
109	1986	Autumn	Athens	With Greek Society
110	1987	Spring	Coventry	
111	1987	September	Guy's Maudsley	
112	1988	Spring	Oxford	With ABN
113	1988	Autumn (September)	Glasgow.	
114	1989	April	Salford	
115	1989	Autumn	Newcastle	
116	1990	Spring	Bristol	
117	1990	Autumn	Warsaw	With Polish Society
118	1991	April	London	Royal Free Hospital
119	1991	September	London	Queen Square
120	1992	Spring	Lausanne	With Swiss Society
121	1992	Autumn	Hull	Hull Royal Infirmary with German Society
122	1993	May	Nottingham	
123	1993	November	Birmingham	
124	1994	April	London	Royal London Hospital
125	1994	April	Dundee	Bonar Hall, University
126	1995	April	Liverpool	Joint with ABN. University
127	1995	September	Dublin	
128	1996	April	Preston	University of Central Lancashire
129	1996	September	Hanover	With German Society
130	1997	April	Cambridge	Robinson College
131	1997	September	Bristol	
132	1998	April	Sheffield	With Polish Society. Royal Hallamshire
133	1998	September	Hurstwood Park	

No.	Year	Time	Venue	Institute
134	1999	April	Leeds	At Royal Armouries Museum
135	1999	September	Cork	University College
136	2000	April	Glasgow	
137	2000	September	London	Southampton
138	2001	April	Newcastle	
139	2001	September	London	AMH
140	2002	April	USA	Charleston
141	2002	September	Middlesbrough	
142	2003	April	Belfast	
143	2003	September	Cardiff	
144	2004	April	Oxford	
145	2004	September	Manchester	
146	2005	April	Edinburgh	
147	2005	September	Plymouth	Joint with ABN
148	2006	April	London	Royal Free Hospital
149	2006	September	Preston	Ambleside
150	2007	April	London *	Charing Cross
151	2007	September	Glasgow	With EANS
152	2008	April	Liverpool	
153	2008	September	Nottingham	
154	2009	April	Birmingham	
155	2009	October	Dublin	
156	2010	March	Cambridge	
157	2010	September	London	GOS
158	2011	March	Bristol	
159	2012	September	Hurstwood Park. Brighton	
160	2012	April	Aberdeen	
161	2012	September	Leeds	

No.	Year	Time	Venue	Institute
162	2013	May	Sheffield	
163	2013	September	Romford	
164	2014	March	London	King's College Hospital
165	2014	September	Coventry	
166	2015	April	Southampton	
167	2015	September	Hull	
168	2016	April	Newcastle	
169	2016	September	Stoke	

*marks meetings celebrated as 100th and 150th anniversaries.

Appendix B

Presidents of the SBNS

1926–1927 Sir Charles Ballance
1927–1928 Mr Wilfred Trotter
1928–1930 Sir Percy Sargent
1930–1932 Mr Donald Armour
1932–1934 Mr Louis Bathe Rawling
1934–1936 Mr Geoffrey Jefferson
1936–1938 Prof. Adams McConnell
1939–1945 Prof. Norman Dott
1945–1948 Prof. Sir Hugh Cairns
1949–1950 Prof. Lambert Rogers
1950–1952 Mr Harvey Jackson
1952–1954 Mr A Dickson Wright
1954–1956 Prof. Sir Geoffrey Jefferson
1956–1958 Mr William Henderson
1958–1960 Mr George Clark-Maxwell
1960–1962 Mr Douglas Northfield
1962–1964 Mr George Rowbotham
1964–1966 Mr George L Alexander
1966–1968 Sir Wylie McKissock
1968–1970 Mr John O'Connell
1970–1972 Mr Richard Johnson

1972–1974 Mr Martin Nichols
1974–1976 Prof. Valentine Logue
1976–1978 Mr Jack Small
1978–1980 Mr Alistair Paterson
1980–1982 Prof. John Hankinson
1982–1984 Mr Peter Schurr
1984–1986 Mr Patrick Clarke
1986–1988 Mr Derek Gordon
1988–1990 Mr Jason Brice
1990–1992 Mr John Garfield
1992–1994 Prof. Douglas Miller
1994–1996 Mr Rab Hide
1996–1998 Mr John Bartlett
1998–1900 Mr Glenn Neil-Dwyer
2000–2002 Prof. Graham Teasdale
2002–2004 Mr David Hardy
2004–2006 Mr James Steers
2006–2008 Prof. John Pickard
2008–2010 Mr Philip van Hille
2010–2012 Miss Anne Moore
2012–2014 Mr Richard Nelson
2014–2016 Mr Richard Kerr

Other office-holders of the SBNS

Secretary

G Jefferson. 1926–1952
W Henderson. 1946–1952 Assistant Secretary, a post abandoned after 1952
DWC Northfield. Nov 1952–1960
J Pennybacker. November 1960–1968.

J Potter. 1968–1972
J Hankinson. 1972–1977
P Clarke. 1977–1980
A Richardson. 1980–1984
A Booth. 1984–1988
T Hide. 1988–1992
R Lye. 1992–1996
D Thomas. 1996–2000
N Gurusinghe. 2000–2004
P van Hille. 2005–2008
P Eldridge. 2008–2011
N Kitchen. 2011–2015
J Thorne 2015–2019

Treasurers

L Bromley. 1926–1934
C Wakeley. 1934–1946
WR Henderson. 1946–1952
JP Pennybacker. 1952–1960
J Small. 1960–1971
N Guthkelch. 1971–1977
K Tutton. 1977–1978
H Griffiths 1978–1982
J Bartlett 1982–1986
A Crockard 1986–1988
J Garfield 1988–1992
M Shaw 1992–1994
DG Hardy. 1994–1998
R Maurice-Williams. 1998–2002
BA Bell. 2002–2006
N Kitchen. 2006–2010

R Kerr. 2010–2014
A Jenkins 2014–2018

Advisers to the Ministry

G Jefferson 1948–1961
D Northfield Nov 1961–1968
J Pennybacker 1968–1971
R Johnson 1971–
J Brice
Lindsay Symon
J Pickard (1991–1997)
P Crawford (1998–2008)
Position lapsed

Archivists

JM Potter 1983–c. 1995
TT King c. 1995– 2008

Appendix C

List of Cairns Lecturers.

1958 Sir G Jefferson. London Hospital. Memories of Hugh Cairns.

1962 Professor Dorothy Russell London Hospital. Perspectives Neuropathology.

1966 Professor Norman Dott. Atkinson Morley's Hosp. Training The Specialist Surgeon. *Lancet*. 1966, **ii:** 1,305

1967 Professor Almeida Lima. Preston. Beyond the Diagnosis.

1969 Professor Hugo Krayenbühl. London Hospital. The Place of Microsurgery in Neurological Surgery. Copies available

1970 Sir Charles Symonds. Hull. Tria Juncta in Uno. Copies available.

1976 JP Pennybacker. Birmingham. Fifty Years On. Copies available.

1978 Dr Leslie Iversen. Chemical Messengers in the Brain. Copies available.

1981 Prof. Lars Leksell. Sheffield. Stereotactic Radiosurgery. Delivered by his son, D Leksell. *J Neurol Neurosurg Psychiat* 1983; **46:** 797,

1983 Professor G Du Boulay. Liverpool. Advances in Neuroradiology. Not published but preumably a review of modern methods including CT and MRU. Not in Pubmed.

1986 Professor Colin Blakemore. Cambridge. Development of the Brain: Insights into the Potential for Recovery in the Adult Nervous System. No copy or manuscript for this available.

1988 Peter Schurr. The Grand Hotel, Brighton. The Cairns Tradition. Copy available.

Cairns Memorial Essay Prize Winners

1973 G Brocklehurst. The Foramen of Magendie Proxime accessit. R Newcombe Manipulation of the Brain.

1975 DGT Thomas. Cell-mediated Immunity in Patients with Glioma of the Brain.

1980 JD Pickard. Prediction of Late Cerebral Ischaemia Following Aneurysm Surgery.

1983 BA Bell. Threshold for Ischaemic Oedema Formation in the Brain.

1988 R Nelson. Observations on the Pathophysiology of Chronic Subdural Haematoma in the Elderly

2014 Rasheed Zakaria. How invasive are brain metastases? Diffusion weighted MRI characteristics of the tumour boundary predict patient outcomes.

2016 Michael Hart. Connectome analysis for pre-operative brain mapping in neurosurgery

Cairns Travelling Scholarship

1974 R Sengupta

1977 M Torrens

1980 F Afshar

1984 P Spiltoir (Brussels)

1985 R Johnston

Appendix D

Intercollegiate Exam Board Chairmen

1989 – 1993	Mr R Myles Gibson
1993 – 1996	Mr Rab T A H Hide
1996 – 1999	Professor John D Pickard
1999 – 2002	Professor Sir Graham Teasdale
2002 – 2006	Mr Richard A Cowie
2006 – 2010	Mr Owen C E Sparrow
2010 – 2014	Mr Tom Cadoux-Hudson
2014 – 2016	Mr William Taylor
2016 –	Mr Neil Kitchen