

Contents

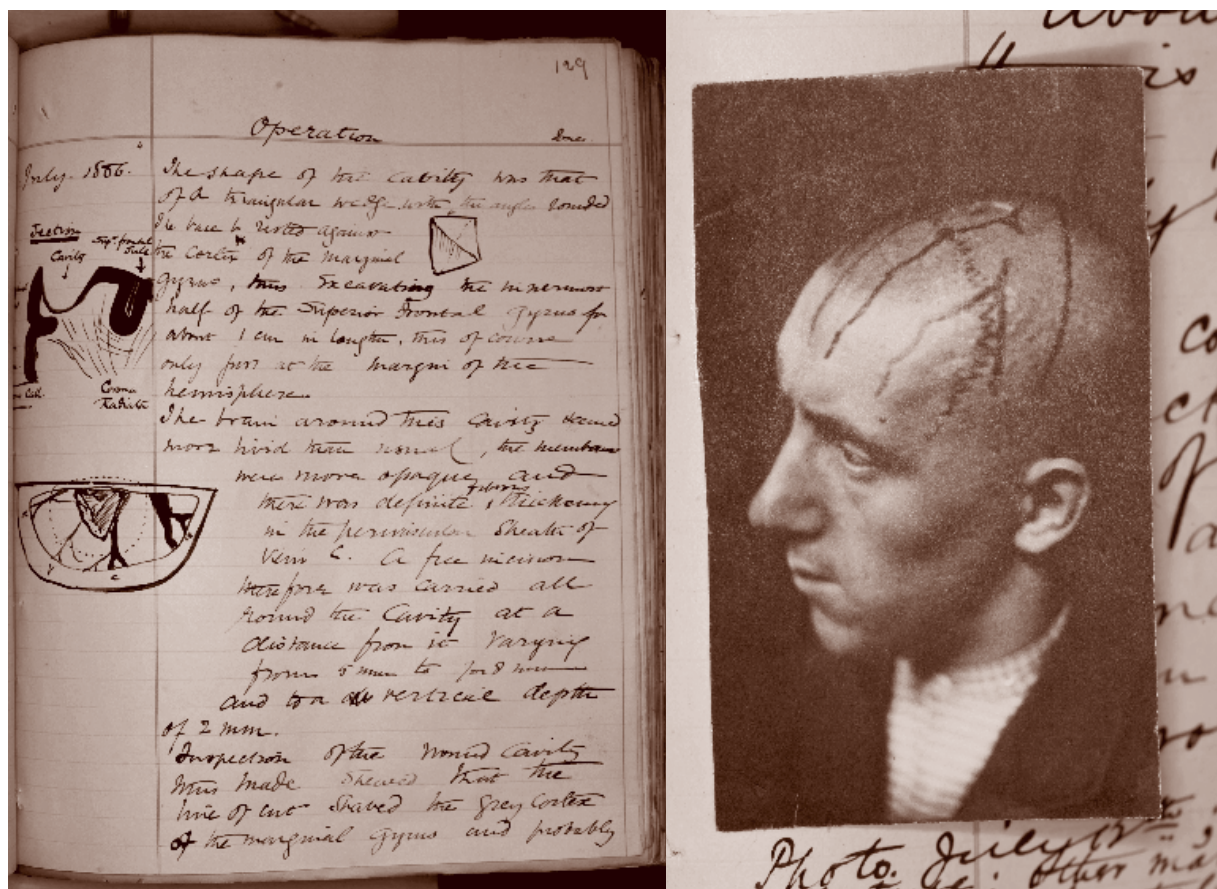
Preface	8
Introduction	9
Epilepsy in London in 1860, new hospitals and early epilepsy physicians	11
John Hughlings Jackson (1835–1911)	21
Sir David Ferrier (1843–1928)	26
Sir William Gowers (1845–1915)	30
Sir Victor Horsley (1857–1916)	33
Epilepsy in London by 1910	41
Bromides and other medicinal treatments	48
Catalogue	53

Preface

The 10th European Congress of Epileptology (ECE) of the International League Against Epilepsy (ILAE) was held in London 30 September to 4 October 2012 at the ExCel Centre. In the past, it had been a tradition in medical congresses to offer a gift (usually a book) related to the medical activities of the city in which the congress was held. At the founding meeting of the ILAE (the 16th International Medical Congress), for instance, in Budapest in 1909, the congress delegates each received a small book on the Hospitals and Clinics of Budapest (A Medical Guide to Budapest, by Dr Tibor de Györy). It was in this spirit that, at the 10th ECE, a small historical exhibition was compiled illustrating the evolution of the study of epilepsy in London between the years 1860 and 1910. This volume, offered to delegates, provides the textual introduction to, and a catalogue of, the exhibition. The items shown at the exhibition are listed in the catalogue and were drawn largely from the archive held at the Queen Square medical library (jointly run by the National Hospital for Neurology and Neurosurgery and the UCL Institute of Neurology), with additional items lent by the archive of the National Society for Epilepsy (NSE), the Wellcome library, the British Medical Association Library, the Gowers family, Mrs. Eileen Critchley and the collection of one of the authors (SDS). References to individual items exhibited in the exhibition are made throughout the text and numbered according to the catalogue. This volume was compiled by a neurologist (SDS) who wrote the text and the catalogue annotations, and a librarian and archivist (LS) who collected, documented, photographed and arranged the items, and both curated the exhibition.

The authors are grateful for the assistance of Ms Sussanah Chan and Katie Godwin for their expertise in setting up the display, to Soazig Daniel and Finola Quinn of the ILAE Congress Secretariat for administrative and logistical support, to the Commission of European Affairs of the ILAE (Chair Professor Meir Bialer and Treasurer Professor Eugen Trinka) for their encouragement and financial support of the exhibition, to Michael Clark for his comments on the draft of the text, and to Mr Greg Corrigan and colleagues of BurleighPortishead, Bristol, for the design and publication of this work.

Simon Shorvon and Louise Shepherd,
Queen Square, London July 2012.

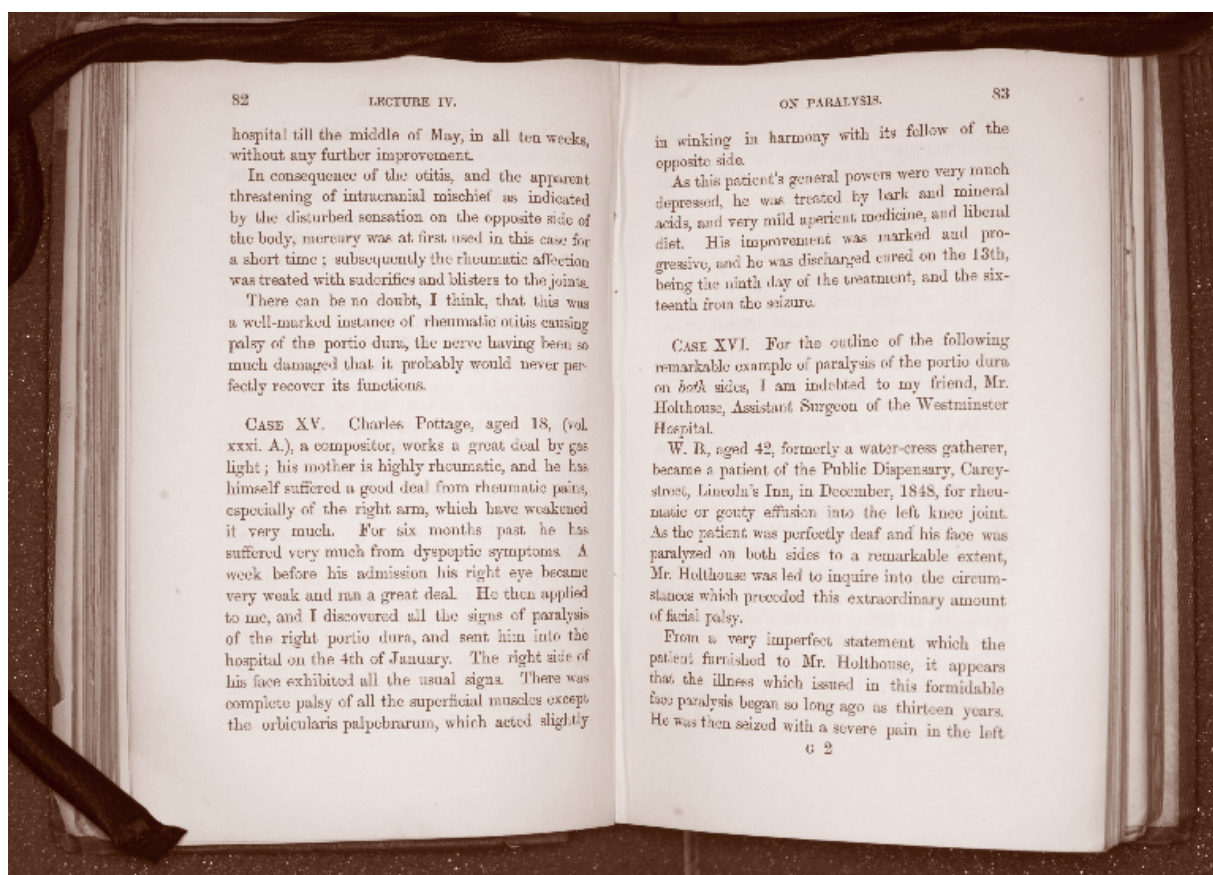


Catalogue 52: Victor Horsley's operation notes and clinical photograph from his third epilepsy operation on July 13th 1886 (case 3 in the British Medical Journal report on Oct 9 1886, p670-675)

Introduction

Epilepsy is of course a condition recognised since the beginnings of medical history. One of the oldest references is on the Sakkiku cuneiform, dated between 718 and 612 BC, which resides in the British Museum in London. It was then a disease considered to be due to demonic possession, and it remained mired in superstition and prejudice, and treated with bizarre therapy. Today these may seem primitive and outlandish, but it should not be forgotten that many superstitious theories and therapies were in widespread currency well into the mid-nineteenth century. Temkin, in his history of epilepsy, entitled the last section 'The Age of Hughlings Jackson', and the last chapter of this section 'The End of the Falling Sickness'. The section commences around 1860, because it was, from then, over a period of about 50 years, that epilepsy largely shed its skin of superstition and emerged in its modern form.

London was a major centre for this transformation. It was in London that a number of physicians and surgeons changed the conceptual basis of epilepsy, the first effective drug

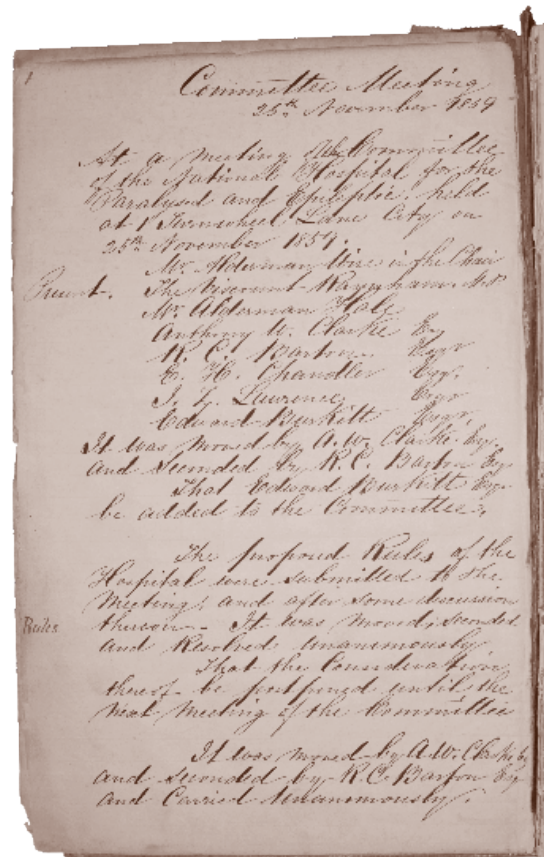


Catalogue no. 11: The clinical lectures of Robert Bentley Todd were given between 1844-54. Lecture 14, shown here, provides details of cases of 'Epileptic hemiplegia' - now known as Todd's paralysis

treatment of epilepsy was discovered, the first hospital was established specifically for the treatment of epilepsy, the cortical localisation of epileptic activity was demonstrated, and the first surgical operation for epilepsy was carried out. Furthermore, through these activities epilepsy rose from being a condition of general obscurity to become the hierophant of brain disease, and a central concern of neurology, medicine and neuroscientific thought. There was of course much work in other centres, largely in Europe, and considerable traffic of ideas and people around Europe and the United States of America; but, for this short period, London remained the one of the main foci for both clinical and theoretical advances in the field of epilepsy. It was in this period that many of the concepts of modern epilepsy was formed. Over these fifty years, the idea of epilepsy as both a disease in its own right and also as a symptom of localised cerebral dysfunction was developed, and the symptoms of seizures were linked to the functions of localised cerebral areas. The causes, natural history and prognosis of epilepsy described and the essentials of a modern classification defined. Drug treatment became more systematised and surgical therapy was introduced. It was also in this period that specialised provision of care for persons with epilepsy was introduced.

After this period, interest in epilepsy waned. Apart from the discovery of phenobarbitone in 1912, there were no very major advances in the field until the application of EEG in the late 1930s, and only then did epilepsy again enter the neurological centre ground.

This introduction is a background essay to illustrate the small exhibit gathered together for the 10th European Congress of Epileptology. The exhibition and essay are designed to illustrate the state of epilepsy theory in 1860, and the evolution of the concepts and treatment of epilepsy in London over the subsequent 50 years, and to paint a picture of the London epilepsy scene in this most dynamic period in the history of epileptology.



Catalogue no. 1: National Hospital for the Paralyzed and Epileptic. Board of Management minutes. Nov 1859 to Jan 1865

Epilepsy in London in 1860, new hospitals and early epilepsy physicians

The establishment of separate institutions for epilepsy was the result partly of the Victorian public anguish about the plight of people with this condition, many of whom were incarcerated in workhouses or lunatic asylums, partly a fear that the sight of an epileptic attack might make a healthy person epileptic, and also partly because neurology as a distinctive intellectual and medical discipline was beginning to be formed. It was against this background of social disadvantage and stigma that there were moves among the medical establishment to improve the social and medical care of epilepsy, and that more modern scientifically based theories of epilepsy began to develop.

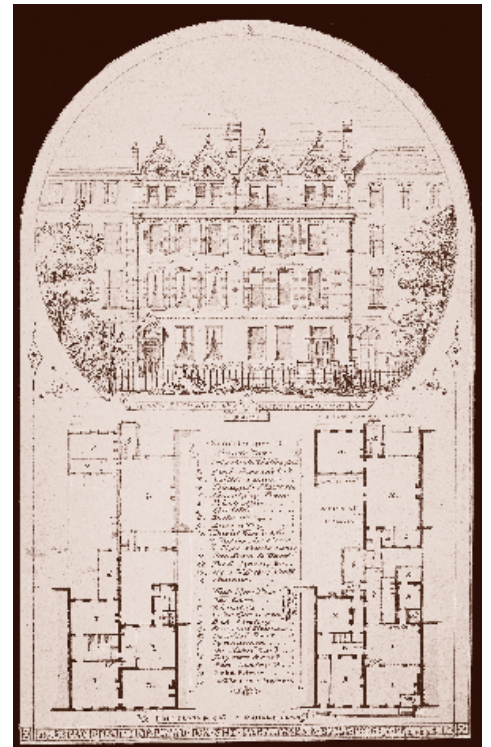
The National Hospital for the Paralysed and Epileptic at Queen Square

The founding of this hospital in 1860 was a most significant step. It was the first hospital in the world to specialise in the field of epilepsy and to offer non-institutional inpatient and outpatient treatment, and this fact was widely hailed in the medical and lay press (*Catalogue nos. 1, 2, 3, 4*). Indeed the hospital remained in the forefront of public interest throughout its first 50 years. The remarkably high level of publicity and public interest that the hospital generated is notable, and must reflect a shrewd management with many connections. However, the contribution of the hospital to the study of epilepsy over the next 50 years certainly justified this interest.

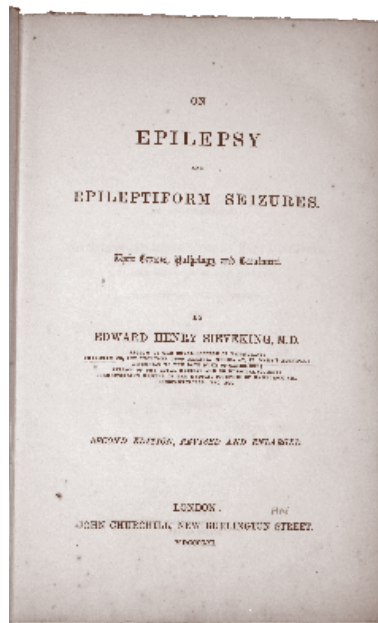
The Daily Telegraph, a national daily newspaper, reported the opening of the hospital with the following revealing words:

‘Few persons can have been long familiar with the streets of any great European city without having observed, more or less frequently, a desolate wretch writhing on the ground foaming at the mouth, hissing between the teeth, lacerating the tongue by frenzied clappings, drawing up all the limbs convulsively and then, perhaps smitten into rigidity, as if suddenly petrified. They have been told it was an epileptic patient, and have passed on Is it credible that none [no institution] exists for the cure or alleviation of the Epileptic and paralytic?’

The Lancet also published a most interesting editorial to



Catalogue no. 2: Architectural plan and elevation of the second building of the National Hospital for the Paralysed and Epileptic in July 1866



Catalogue no. 6: Sieveking, Edward Henry: On epilepsy and epileptiform seizures : their causes, pathology and treatment. London, J Churchill, 1858

celebrate the opening of the hospital (reproduced in full in the catalogue section – *Catalogue no. 4*), which highlights the public debate about the wisdom of introducing specialist hospitals, the crisis in asylum care, the rise in the number of cases of epilepsy, the abject state of contemporary care for the condition, the need for curative and preventive therapy, and the importance of embedding medicine in physiology and experimental science. The last point was a reference to the fact that Brown-Séquard was appointed to the staff, and it seems likely that his appointment was an important element in the interest generated by the hospital.

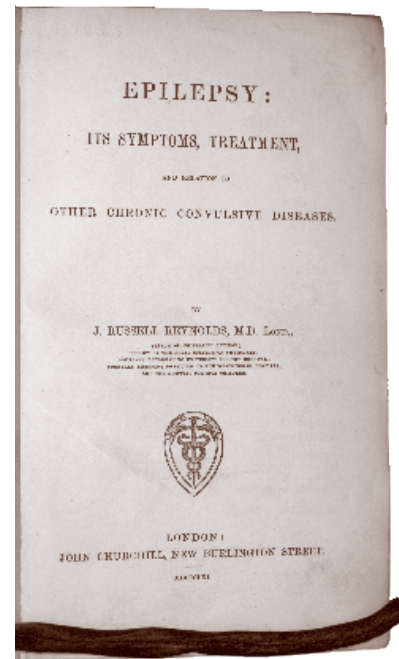
As was the case with many hospitals of the mid-Victorian period, the foundation of the National Hospital was made possible by a public appeal for charitable giving led by dedicated philanthropists. In the case of the National Hospital, the Chandler family, Johanna, Louisa and Edward, led an extraordinary and highly successful campaign of fund raising, supported by the Lord Mayor of London David Wire. Over the next few years, other hospitals specialising in epilepsy and neurology were opened in London, including the rival ‘London Infirmary for Epilepsy and Paralysis’, established in 1866 – which changed its name to the ‘Hospital for Diseases of the Nervous System’ in 1873, and the ‘West End Hospital for Diseases of the Nervous System, Paralysis and Epilepsy’ established in 1878 and in turn changed its name to the ‘West End Hospital for Nervous Diseases’ in 1915. However, the National Hospital at Queen Square remained dominant.

Epilepsy was the condition most commonly treated at the hospital in these early years. In Gowers’ list of 168 inpatient diagnoses in 1871, it was the primary diagnosis in 39% of patients, and was also the commonest outpatient condition. Numbers grew rapidly and during 1891, for instance, it is recorded that there were 839 inpatients and 3938 new outpatients at the hospital.

The hospital too was soon the centre of academic work on epilepsy. Of the six first physicians at the hospital, Ramskill, Brown-Séquard, Echeverria, Radcliffe, Reynolds and Sieveking all wrote on epilepsy and the last four contributed monographs on the subject: Radcliffe in 1858 (*Catalogue no. 5*), Sieveking in 1858 (*Catalogue no. 6*), Reynolds in 1861 (*Catalogue no. 7*) and Echeverria in 1870 (after he had moved to the Blackwell’s Island Hospital in New York). Of the 20 physicians and surgeons appointed to the National Hospital

staff between 1860 and 1886, 10 made major contributions to epilepsy and 6 were still on the staff in 1886 (*Catalogue no. 8*).

Then, as now, the choice of medical staff at a hospital was fundamental to its reputation – and the selection of staff at the National Hospital was particularly fortunate (*Catalogue nos. 8, 9*). Many of the early consulting staff of the hospital were or became leaders in the field and gained eminence in medicine in general. Of the first twenty appointees (1859–1886), five gave major invited medical lectures of the day (at The Royal College of Physicians or The Royal Society of Medicine), two held senior positions at The Royal College of Physicians, seven were elected Fellows of The Royal Society, three were appointed Physicians to The Royal Household, and five were knighted for their various contributions to medicine. There has been no parallel before or since for this remarkable record. It is clear that the recruitment to the hospital staff must have been very carefully arranged, and very quickly the hospital gained a national and international reputation with no contemporary parallel. The work of the hospital and its physicians featured prominently in the medical press of the period, and the hospital was considered the prime example of the benefits of specialisation. The hospital too had the



Catalogue no. 7: John Russell Reynolds, Sir: Epilepsy: its symptoms, treatment and relation to other chronic convulsive diseases. London, J Churchill, 1861



Catalogue no. 8: Contemporary photograph of the physicians of Queen Square, from around 1886



Catalogue no. 9: Contemporary photograph of the physicians of Queen Square around 1904

advantage of influential supporters among the London establishment and aristocracy, as well as royal patronage (*Catalogue no. 10*).

From the point of view of the history of epilepsy in London around 1860, six physicians working in London around this time require special mention – five of whom were appointed to the National Hospital and one who died in the year that the Hospital was founded.

Robert Bentley Todd (1809–1860)

Robert Bentley Todd qualified from Trinity College Dublin in 1828. He then obtained a DM from Oxford in 1836 and was appointed to the newly established Chair of Physiology and Morbid Anatomy at King's College London and became one of the first physicians at King's College Hospital. He was elected fellow of The Royal Society and served on its council, and also as Censor at The Royal College of Physicians, where he delivered the Goulstonian lectures in 1839, the Croonian lectures in 1842 and the Lumleian lectures in 1849–1850, the last on the topic of epilepsy. He was a pioneering physiologist, and he applied electrical concepts and theories of nervous polarity to the brain. He recognised that epilepsy arose in the cerebral hemispheres at a time when it was considered largely to be a medullary disorder. He devoted one lecture to postictal paralysis which thenceforward carried his name (*Catalogue no. 11*). Todd died at a young age, in the year of the foundation of the National Hospital for the Paralysed and the Epileptic, and no doubt would have been pleased to see the development of a hospital dedicated to two conditions that had so occupied him in his clinical and theoretical work.



Catalogue no. 10: Illustrated London News, Nov 10 1909. With the caption: "Its very pleasant". The king submitting himself to a shock from the high frequency machine on the occasion of the opening of the jubilee extension buildings of the National Hospital for the Paralysed and Epileptic

Jabez Spence Ramskill (1824–1897)

Ramskill was trained in medicine at Guys. He was appointed as Senior Physician at the Metropolitan Free Hospital and it was there that he recruited and brought Hughlings Jackson to London to act as his assistant. Ramskill was an important figure in London medicine at the time and was said to have been interested in epilepsy above all other topics. It is also recorded that it was Ramskill who was responsible for encouraging Joanna Chandler, whose personal physician he was, to build a hospital not a rest home and to include epilepsy as a focus of work for the new hospital for which she was raising funds (her initial idea was to build a home for people with paralysis). It was he who must have set the medical direction and organisation of the National Hospital in the early years, and who was I suspect influential in the recruitment of the early staff. He inspired Hughlings Jackson to take an interest in epilepsy and persuaded the Management Committee of the hospital to appoint Jackson to the staff. His meticulous case notes were an inspiration to Jackson and provided Jackson with his first epilepsy cases (*Catalogue no. 12*). His theories of reflex action also anticipated Jackson's theories of release of reflex centres from inhibition. His main interest was in therapeutics, as noted in his *Lancet* obituary, and Gordon Holmes wrote that 'It was said that almost every week he [Ramskill] brought a specimen of a new drug, always hopeful that he had found in it a cure for epilepsy'. Ramskill also reported the first use of bromides at the National Hospital and helped popularise this new therapy. He was not, however, a prolific author or researcher, and published in total only 12 papers, including 4 on epilepsy.

Charles-Édouard Brown-Séquard (1817–1894)

Brown-Séquard was one of the physicians appointed at the time of the foundation of the Hospital in 1859 (*Catalogue no. 13*). He was by then already a celebrated experimentalist and doctor, and his appointment must have added lustre to the new hospital. His had been a remarkably peripatetic life. He was born in Mauritius and studied medicine in Paris, completing his thesis on the reflex action of the spinal cord after separation from the brain; he became a student of the physiologist Martin-Magron and an *externe des hôpitaux* under the famous French physician Armand Trousseau. In 1852, he moved to the USA, then back to Paris and to Mauritius, and in 1854 back to America, where he was appointed Professor of Medical Jurisprudence at the Virginia Medical College in Richmond. A year later he was back in Paris, applied for the vacancy at the College de France, but was beaten to that post by Claude Bernard. In 1859, he joined Ramskill as physician to the National Hospital in London, and while in London gave the Goulstonian Lectures in 1861 and was awarded Fellowship of The Royal Society. However, he stayed at Queen Square for only 4 years (nevertheless the longest time he spent in any post except his last), and then took the professorial chair at Harvard, which he relinquished 3 years later to move back to Paris, but in 1872 returned to practise in New York. In 1875, he returned once more to work in Paris, and then, after a short time in London, he took the Chair of Physiology in Geneva. Shortly after he returned to Paris where he was appointed to the Chair of Experimental Medicine at the College de France, vacated on Bernard's death.

His most famous work was his study of the motor and sensory effects of hemisection of the spinal cord (the hemisection syndrome that bears his name). However, he was also very influential in the field of epilepsy, and renowned for his famous experiments in guinea-

pigs, which had been carried out before he moved to Queen Square. As a result of these, he proposed that epilepsy was located in the spinal cord or in the medulla. He observed that, after spinal hemisection, spontaneous or reflex 'seizures' occurred in non-paralysed limbs and face, and that, after 10–30 seconds of induced asphyxia, convulsions would occur in these animals. He was not the first to suggest that epilepsy had its origins in the spine or medulla, and both Marie-Jean-Pierre Flourens and Marshall Hall had published similar thoughts, but he did provide seemingly excellent experimental proof. He proposed that epilepsy was a state of 'increased reflex excitability' and due to a loss of the control that, in normal conditions, 'the will possesses over the reflex faculty'. He thought the medulla was the most frequent seat of increased reflex excitability. He also observed that the epilepsy produced in his guinea-pigs could be inherited by offspring, work that also excited debate, became very influential, and was cited by both Darwin and Huxley. All these theories became widely accepted in his time, but have since been shown to be utterly false. One presumes that the motor phenomenon that he observed in his guinea-pigs was not epileptic but rather decorticate or myoclonic movements, but no plausible cause that can explain his transmitted epilepsy has been made. His concept of medullary or spinal epilepsy was really only rejected several decades later by the work of Ferrier and Jackson. When he retired from Queen Square, he was replaced by the appointment of Radcliffe.

Sir Edward Henry Sieveking (1816–1904)

Sieveking (*Catalogue no. 14*) was born in London and studied medicine in Berlin (under Johannes Peter Müller), Bonn, University College London and the University of Edinburgh, where he qualified in 1841. He was appointed physician to the London Lock Hospital and Assistant Physician to St Mary's Hospital in 1851, and then as Consulting Physician to the Hospital. He was appointed as Physician to the National Hospital in 1864 where he worked for 4 years (*Catalogue no. 15*). He was clearly a remarkable person, with many varied interests in medicine, personal involvement in the training of nurses and treatment of the poor, and was honoured as a Knight of Grace of the Order of St John of Jerusalem. He was also appointed to the royal household as Physician-Extraordinary in 1873 and Physician-in-Ordinary in 1888 by Queen Victoria and then King Edward VII. He was elected Censor and then Vice-President of The Royal College of Physicians in 1888, where he gave the Croonian lecture in 1866 and was the Harveian orator in 1877. He was knighted by Queen Victoria in 1886. He is mainly remembered for his work on epilepsy. The first edition of his book *On Epilepsy and Epileptiform Seizures: Their causes, pathology, and treatment* (*Catalogue no. 6*) was published 2 years before the opening of the Hospital. It is an important book, which marks a turning point in the subject. It proved popular and entered a second edition in 1861 (the first having had 'a reception beyond its merits' as Sieveking wrote in the preface). In the introduction to the first edition, he wrote that 'The history of epilepsy, more than of other affections of the nervous system, until the most recent periods has been the history of one of the weakest sides of medical science'. Sieveking wanted to put epilepsy at the centre of intellectual enquiry, and he succeeded. The book is a useful summary of contemporary knowledge, with interesting chapters on symptoms, clinical course and causation, and is an erudite and comprehensive work with extensive reference to the existing continental and British literature. However, it remains mainly a review of conventional knowledge and thus is in many respects backward looking.

Sieveking devoted nearly 100 pages of his book to treatment, the most authoritative section of the book. Here he made the now famous comments that ‘There is scarcely a substance in the world, capable of passing through the gullet of man, that has not at one time or other enjoyed a reputation of being an anti-epileptic’, and he had a healthy scepticism about many contemporary treatments. In the sections on the prominent causes of epilepsy, Sieveking included (a widely held view at the time):

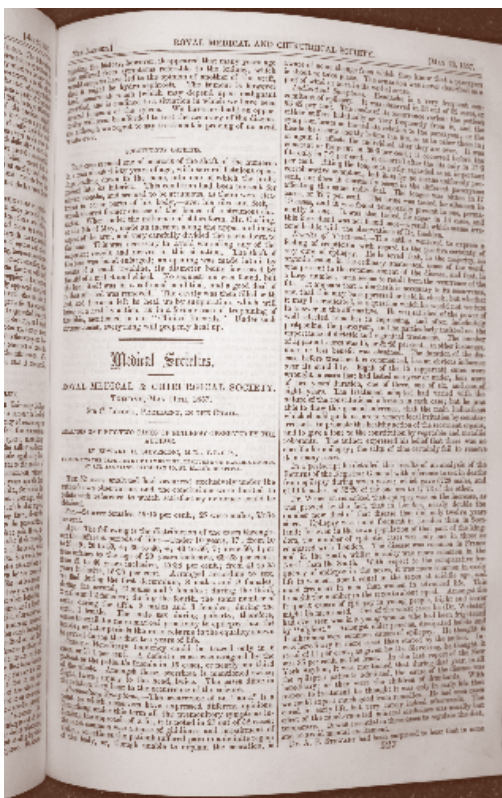
‘... in a person guilty of masturbation we generally notice a peculiar hang-dog expression; an unwillingness to meet the speaker eye to eye; a large sluggish pupil; a pale, livid hue and languid circulation of the surface, a general nervousness of demeanour’ and found among a series of 29 men with epilepsy:

‘... nine in whom the sexual system was in a state of great excitement owing to recent or former masturbation.’

This now seemingly ridiculous emphasis on sexual excess had one unforeseen benefit – it was the main reason for the discovery and rapid spread of bromide therapy, then used to lessen sexual excitement. On 12 May 1857, Sieveking gave an authoritative lecture at The Royal Chirurgical Society on a series of 52 patients with epilepsy. Sir Charles Locock, the royal obstetrician, was the society’s president and in the chair. He was a fashionable doctor but certainly no neuroscientist and, after Sieveking had presented his lecture, Locock commented on the importance of onanism and mentioned that he had discovered the benefits of bromide in hysterical epilepsy (*see below; catalogue no. 16*); as a result of this observation, within a few years bromides had become established as the first really effective therapy for epilepsy.

Charles Bland Radcliffe (1822–1889)

Charles Bland Radcliffe (*Catalogue no. 17*) trained in medicine in Leeds, Paris (under Claude Bernard) and London. He graduated from London University in 1845, obtaining a Gold Medal. He was elected Fellow of The Royal College of Physicians of London in 1858, Goulstonian lecturer in 1860, Croonian lecturer in 1873 and then Councillor and Censor of the College in 1875–1876. He was appointed physician to the Westminster Hospital in 1857 and to the National Hospital in 1863. His Goulstonian lectures in 1860 were on the topic of epilepsy. His was, however, a wayward view of epilepsy. He was a vitalist, but believed that electricity was the nature of the vital



Catalogue no. 16: Locock C. Discussion of paper by E.H. Sieveking. Analysis of fifty-two cases of epilepsy observed by the author. Lancet, 23rd May 1857, page 527