Three years of Neurohistory, 2 : 2007-2010

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This annotated bibliography follows the same lines as the first three-year Neurohistory bibliography. It covers the periodical literature from January 1 2007 until 1 January 2010. Interest in the history of the neurosciences shows no sign of slackening; indeed quite the reverse. Whereas the first annotated bibliography covering the years 2004-2007 listed some 350 publications the present bibliography, covering the next three years, lists some 570 articles. These articles have appeared in a wide spectrum of journals and it is hoped that bringing them together in one searchable list will alert students of neurohistory to the widespread interest in the subject and assist in further research.
Key:  # Of particular interest  * Of outstanding interest

Antiquity (-500CE)

Andrushko VA, Verano JW (2008): Prehistoric trepanation in the Cuzco region of Peru: a view into an ancient Andean practice. *Am J Phys Anthropol.* 137: 4-13. Trepanations were found in 66 individuals and in many cases seems to have been performed as a medical treatment for cranial trauma


Evans KM (2007): “Interrupted by fits of weeping”: Cicero’s Major Depressive Disorder and the death of Tullia. *History of Psychiatry* 18: 81-102. A detailed examination of the letters of Cicero (106-43 BCE) show him to have been subject to severe bouts of suicidal depression

Dimopoulos VG, Kapsalakis IZ, Fountas KN (2007): Skull morphology and its neurosurgical implications in the Hippocratic era. *Neurosurgical Focus* 23: E1. Differences in skull morphological characteristics among various human populations were first described by Herodotus of Halicarnassus. The Hippocratic treatise *On Head Wounds* provided the first detailed description of human skull anatomy. The authors discuss the influence of this treatise on the later development of descriptive skull anatomy and on the development of modern neurosurgery


Garcia-Albea Ristol E (2009): Areteaus of Cappadocia (2nd century AD) and the earliest neurological descriptions. Rev Neurol. 48: 322-7. Nothing is known of this contemporary of Galen but some of his writings have come down to us and this paper discusses his medical books, especially book 3 which includes such matters as headaches, scotoma, epilepsy, melancholy, madness and paralysis.


A valuable and well-illustrated account of this seminal papyrus focusing on its sections describing head and brain injuries and their treatment, with figures showing the relevant hieroglyphs.

Retief FP, Cilliers L (2008): The nervous system in antiquity. S Afr Med J. 98: 768-70, 772. Whereas neuroanatomy was developed in Alexandria (4th and 3rd centuries BCE) and consolidated by Galen (2nd century CE) neurophysiology remained mired in error; descriptions of neurological disease were often quite accurate but poor understanding of neurophysiology led to ineffective therapies; a continuing problem was where the 'control centre' or hegemonikon was located.


Kladno, showed two children’s craniums (identification numbers Ao 8218 and Ao 4184) with pathological conditions and these are discussed


#Yapijakis C (2009): Hippocrates of Kos, the father of clinical medicine, and Asclepiades of Bithynia, the father of molecular medicine. In Vivo 23: 507-14. A discussion of Hippocratic medicine (Hippocrates c.460-377 BCE) and that of the somewhat later Asclepiades of Bithynia (c.124-40 BCE) who, it is argued, treated the human body from the perspective of the Epicurean atomic theory and was hence the father of ‘molecular medicine’.

Medieval (500 – 1450 CE)


possessed a very systematic knowledge on head traumas and this along with his observations and experiences made him a real successor of Galen and Paul of Aegina.


Serefeddin Sabuncuoglu was an early 15th century surgeon in Anatolia. His masterpiece entitled Cerrahiyetül Hanije (Imperial Surgery) is the first illustrated surgical textbook in the Turkish Islamic literature of Ottoman-era Anatolia and covers the treatment of more than 40 illnesses ranging from hydrocephalus to sciatica.

Baxendale S (2008): The intriguing case of Christina the Astonishing. Neurology 70: 2004-7. An account of the probable temporal lobe epilepsy of Christina the Astonishing (1150-1224) whose seizures were, at the time, attributed to demonic forces and welcomed by Christina on the understanding that enduring the torments paid for respite for souls in purgatory

de Frutos-González V, Guerrero-Peral AL (2009): Neurology in medieval medical poetry in Latin. Rev Neurol.48:540-4. Mediaeval medical works in Latin offer an interesting insight into the way neurological diseases were viewed by western physicians in the Middle Ages, as well as describing the remedies that were employed at that time to treat them. Most of these involved the use of plants that were considered to have medicinal properties. (In Spanish)

Di Ieva, Tschabitscher M, Prada F, et al. (2007): The neuroanatomical plates of Guido da Vigevano. Neurosurgical Focus 23: E15. da Vigevano was an Italian physician and engineer in the 13th and 14th centuries. He was the first scientist who used pictures to illustrate his anatomical descriptions, developing for the first time a close relationship between anatomical studies and artistic drawings.

Elliot, P (2008): ‘More Subtle than the Electric Aura’: Georgian Medical electricity, the spirit of animation and the Development of Erasmus Darwin’s Psychophysiology. Medical History 52: 195-220. By using a case study of Darwinian medical practice Elliot shows that the use of medical electricity was strongly influenced by natural philosophy and, in turn, medical applications played an important role in the development of psychophysiology


Kheirandish E (2009): Footprints of ‘Experiment’ in Early Arabic Optics. Early Science and Medicine 14: 79-104. Starting with an examination of the Book on Optics and Burning Mirrors by Ahmad ibn ‘Isa (c.864 CE) the paper argues that close analysis of the texts suggests that Islamic scholarship was not confined to book-learning but that ‘footprints’ of experiment can be discerned.

Pearce JM (2008): Leopold Auenbrugger: camphor-induced epilepsy - remedy for manic psychosis. *Eur. Neurol.* 59: 105-7. Auenbrugger (1722-1807) invented the art of diagnostic percussion (including the skull) and this paper provides a brief biographical sketch and recalls his use of camphor to induce epileptic fits, which were considered a remedy for psychosis.


# Sabra AI (2007): The ‘Commentary’ That Saved the Text. The Hazardous Journey of Ibn al-Haytham’s Arabic Optics. *Early Science and Medicine* 12: 117-33. al-Haytham’s *Optics* was written in the first half of the 11th century and Kamal al-Din al-Farisi’s *Commentary* was composed in the second half of the 13th century and this paper discusses their transmission within the Islamic Arabic and Persian worlds.

Safavi-Abbasi S, Brasiliense LBC, Workman RK, Talley MC, Feiz-Erfan I, Theodore N, Spetzler RF, Mark C. Preul MC (2007): The fate of medical knowledge and the neurosciences during the time of Genghis Khan and the Mongolian Empire. *Neurosurgical Focus* 23: E13. After the initial shock of destruction by an unknown barbaric tribe, almost every country conquered by the Mongols was transformed by a rise in cultural communication, expanded trade, and advances in civilization. Medicine, including techniques related to surgery and neurological surgery, became one of the many areas of life and culture that the Mongolian Empire influenced.


Turgut M (2007): Illustrations of neurosurgical techniques in early period of Ottoman Empire by Serefeddin Sabuncuoğlu. *Acta Neurochir (Wien)*. **149**:1063-9; discussion 1069. Serefeddin Sabuncuolu (1385-1468) was the author of the first illustrated surgical atlas, the *Cerrahiyetü'l Haniye* (Imperial Surgery), written (in Turkish) in 1465. It consists of 412 pages detailing many surgical techniques, including many in neurosurgery, and this well-illustrated article reviews his seminal contribution.


Turgut M (2009): Surgical scalpel used in the treatment of "infantile hydrocephalus" by Al Zahrawi (936-1013 A.D.) *Child’s Nerv Syst.* **25**:1043-4. [DOI: 10.1007/s00381-008-0773-7]. A short account of the surgeon known to the West as Abulcasis or Abukasis who first used surgical evacuation of superficial intracranial fluid to treat hydrocephalic children and was the first medical author to provide illustrations of his surgical instruments (reproduced in this article).

Wujastyk D (2007): A Persian Anatomical Image in a non-Muslim Manuscript from Gujarat. *Med.Hist.* **51**: 237-42. A Persian manuscript entitled *Tasrih-i Mansuri* from 1396 provides six or seven anatomical drawings which influenced Indian anatomical illustrations in the eighteenth century; cerebral anatomy is missing and medieval ‘cell’ psychophysiology is not shown.

**Renaissance (1450-1700 CE)**


Di Ieva A, Tschabitscher M, Rodriguez y Baena R (2007): Lancisi’s nerves and the seat of the soul. Neurosurgery 60: 563-8. The medial longitudinal striae of the corpus callosum were first described by Giovanni Maria Lancisi (1654-1720), personal physician to three Popes, and this essay describes his era, his philosophical background, and a description of the anatomical structures that bear his name.

*Fontoura P. (2009): Neurological practice in the Centuria of Amatus Lusitanus. Brain 132: 296-308. Amatus Lusitanus, a Portuguese Jew living in XVI century Europe, was among the first to recognize the importance of the brain parenchyma in cognition. The number of neurological and neurosurgical observations is amazing.


Grzbowski A, Aydin P (2007): Edme Mariotte (1620-1684): Pioneer of Neurophysiology. Surv.Ophthalmol. 52: 443-451. Mariotte made many significant discoveries in a spectrum of sciences and corresponded with many of the great scientists of his time. Although he falsely concluded that the blind spot (Mariotte’s spot) was in the choroid rather than the retina he may nevertheless be considered a forerunner in experimental neuro-ophthalmology.


MacDonald PS (2007): Francis Bacon’s Behavioural Psychology. *J.Hist.Behav.Scis* **XLIII**: 285-303. Francis Bacon (1561-1626) offered two accounts of the nature of the human mind: a medico-physical account and (less well-known) a form of behavioural psychology and this paper attempts to show how the two can be integrated.

Meli, DB (2008): The collaboration between anatomists and mathematicians in the mid-seventeenth century with a study of images as experiments and Galileo’s role in Steno’s mycology. *Early Science and Medicine* **13**: 665-709. This article reviews the interaction between many mathematicians and anatomists and focuses on Steno’s *Myology*, showing how his collaboration with the mathematician Viviani led to a geometric treatment of muscle contraction.

Ozturk S (2009): Leonardo Da Vinci (1452-1519) as a stroke victim: hemiparesis: a result of a vegetarian diet? *J.Med.Biogr.* **17**: 7. A brief account suggesting that Leonardo’s right hemiparesis (in the last five years of his life) might have been due to increased homocysteine levels following a prolonged vegetarian diet.


# Piccolino M, Wade NJ (2008): Galileo Galilei’s vision of the senses. *Trends Neurosci.* **31**:585-90. Epub 2008 Oct 8. It is argued that that the conceptual basis of contemporary approaches to sensory function had been recognized four centuries ago by Galileo Galilei.


Rengachary SS, Xavier A, Manjila S, Smerdon U, Parker B, Hadwan S, Guthikonda M. (2008): The legendary contributions of Thomas Willis (1621-1675): the arterial circle and beyond. *J Neurosurg.* **109**:765-75.. An account of the life and work of Thomas Willis emphasising that he not only coined the word ‘neurology’ and gave his name to the arterial circle but also contributed to many related anatomical fields, disease entities, pathology and comparative anatomy.


Sakuta, M (2009): One hundred books which built up neurology (34)--John Browne "A compleat treatise of the muscles" (1681)]. *Brain Nerve* **61**: 1192-3 (In Japanese)
Schott GD (2008): Piero della Francesca's projections and neuroimaging today. *Lancet.* 372:1378-9. A fascinating paper showing how Piero della Francesca (c.1412-92) developed artistic devices to show the head, using projections which are still used by neuroscientists to illustrate the brain 600 years later.


Vinchon M (2009): Ambroise Paré, surgery, and obstetrics. *Child’s Nerv Syst.* 25: 639-40 [DOI: 10.1007/s00381-008-0775-5]. A brief account of Paré (c.1510 - 1590) with a portrait, emphasising that he was not only one of the founders of modern surgery but also played a significant role in the origins of obstetrics.

Wade NJ (2007): Galileo and the senses, vision and the art of deception. *Galilaeana* 4: 259-88. Examines Galileo’s analyses of the mechanical senses in contrast to vision. Galileo can be said to have anticipated approaches to sensory mechanisms that are associated with modern studies. Despite his contacts with Kepler and Scheiner, Galileo did not apply these concepts to the analysis of vision.

Wade NJ (2009): Galileo’s vision. *Cortex* 45: 793-4. [DOI:10.1016/j.cortex.2009.01.010]. Lauded by Sergio Della Sala in this issue of *Cortex* as an ‘honorary neuroscientist’ this article shows that Galileo concerned himself not only with astronomical observation, but also with the way in which the senses, especially vision, interpreted the world ‘outside’.

Wübben Y (2009): Transhumane Physiologie. Bilder und Praktiken des Refexes (Thomas Willis, Robert Whytt, Marshall Hall). *Early Modern Science and Medicine* 15: 105-121. An examination of the function of visualisations and practices in the formation of the reflex concept with an argument suggesting that it is through such practices and visualisations that technical knowledge is transferred from animal to human reflex physiology (In German)


Zago S, Meraviglia MV (2009): Costanzo Varolio (1543-1575). *J Neurol.* 256:1195-6. [DOI: 10.1007/s00415-009-5192-5]. Varolio’s name is usually linked with the bridge (pons) which bears his name but he also contributed several other neuroanatomical descriptions in the 16th century and this article reviews his life and work.
**Eighteenth Century**

Ashoori A, Jankovic J (2007): Mozart’s movements and behaviour: a case of Tourette’s syndrome? *J.Neurology Neurosurg. Psychiatry* 78: 1171-75. The 250th anniversary of Mozart’s (1756-1791) birth provides an opportunity to assess his neurology and this comprehensive paper concludes that if he did suffer from any neurological disorder he was able to compensate well.


Boury D (2008): Irritability and sensibility: Key concepts in assessing the medical doctrines of Haller and Bordeu. *Science in Context 21*: 521-35. This article discusses the various concepts of irritability and sensibility current in the mid-18th century; it is argued that Haller’s experimental approach led to an autonomous science of physiology, whilst that of Chambaud and Bordeu formed the bases of clinical medicine.


Di Ieva A, Yaşargil MG (2008): Liquor cotunnii: the history of cerebrospinal fluid in Domenico Cotugno's work. *Neurosurgery 63*: 352-8; discussion 358. Cotugno (1736-1822) is known for his work on the anatomy of the inner ear, on the pathophysiology of sciatica and for
meticulous dissections which established the presence of CSF not only in the brain’s ventricles but also in the spine and subarachnoid spaces – hence CSF is also known as liquor cotonii.

Elliot, P (2008): ‘More Subtle than the Electric Aura’: Georgian Medical electricity, the spirit of animation and the Development of Erasmus Darwin’s Psychophysiology. *Medical History* 52: 195-220. By using a case study of Darwinian medical practice Elliot shows that the use of medical electricity was strongly influenced by natural philosophy and, in turn, medical applications played an important role in the development of psychophysiology.

Finger S (2009): Edward Bancroft’s ‘Torporific Eels’. *Perspectives in Biology and Medicine* 52: 61-79. Edward Bancroft’s 1769 Essay detailed experiments on South American eels which suggested that their torporific powers were electrical thus making an early case for animal electricity and stimulating the work of John Walsh in the 1770s.


#Giglioni G (2008): What ever happened to Francis Glisson? Albrecht Haller and the fate of eighteenth-century irritability. *Science in Context* 21: 465-93. An investigation of the reasons behind the disappearance of Glisson’s theory of irritability during the 18th century; it is argued that this was due to objections to his mind/matter metaphysics and that Haller played a key role in the process.


Pearce JM (2008): Leopold Auenbrugger: camphor-induced epilepsy - remedy for manic psychosis. *Eur. Neurol.* 59: 105-7. Auenbrugger (1722-1807) invented the art of diagnostic percussion (including the skull) and this paper provides a brief biographical sketch and recalls his use of camphor to induce epileptic fits, which were considered a remedy for psychosis.


#Schutta HS (2009): Morgagni on Apoplexy in De Sedibus: A Historical Perspective. *J. Hist Neurosci 18*: 1-24. A detailed examination of Morgagni’s (1682-1771) case reports on apoplexy and paralysis which concludes that his reports impeded rather than, as is generally believed, assisted in understanding the conditions.


Smith PEM, Chitty CN, Williams G, Stephens D (2008): Goya’s deafness. *Pract. Neurol.* 8, 370-77. Francisco Goya (1746-1828) became profoundly deaf at the age of 46 in 1792 and this paper discusses his symptoms (so far as they are known) and concludes that his condition was due to either Susac’s or Cogan’s syndrome.


* Tubbs RS, Lovkas H, Hill M, Shoja M, Cohen-Gadol AA (2009) Richard Lower (1631-1691) acknowledging his notable contributions to the exploration of the nervous system. *J Neurosurg* 111: 1096-1101. [DOI: 10.3171/2008.11.JNS081329]. Some of the findings of Thomas Willis should be attributed to this important physician and researcher who has been unjustly overshadowed by his greater contemporary.

Nineteenth Century


Bloomstedt P, Olivecrona M, Sailor A, Hariz MI (2007): Dittmar and the history of stereotaxy; or rabbits, rats and references. *Neurosurgery 60*: 198-201. Reference to Dittmar’s original paper, usually regarded as originating stereotaxy, shows that many of the subsequent investigators who cited this paper had clearly not actually read it.

Bogousslavsky J (2007): Memory after Charcot: Paul Sollier’s visionary work. *J.Neurol.Neurosurg.Psychiatry 78*: 1373-4. Paul Sollier (1861-1938) was regarded by Léon Daudet as one of Charcot’s cleverest pupils but his work on memory has been largely overlooked as it fell between neurology and psychiatry and he is now remembered (if at all) as Marcel Proust’s neurologist. This paper argues that it is now time to rehabilitate him and his work.

Binder DK, Schaller K, Clusmann H (2007): The seminal contributions of Johann-Christian Reil to anatomy, physiology, and psychiatry. *Neurosurgery 61* (5):1091-1096. Many anatomical features are named for this prominent German physician (1759-1813), who coined the term “psychiatry” in 1808 and was physician to Goethe.


Brau C, Brau RH (2008): Babinski’s signe de l’eventail: a turning point in the history of neurology. *P. R. Health Sci. J. 27*:103-5. Although the Babinski sign had been observed as early as 1784, Babinski’s report in 1896 was not only responsible for suggesting the significance of the sign but also for transforming the role which physical diagnosis plays in modern medicine and this paper reviews the history.


Clarac F, Massion J, Smith AM (2009): Duchenne, Charcot and Babinski, three neurologists of La Salpetrière Hospital, and their contribution to concepts of the central organization of motor synergy. *J Physiol Paris 103*: 361-76. This review traces some current ideas about motor control back to the ideas of three French neurologists of the Salpêtrière hospital in Paris during the latter half of the 19th and early 20th century.


Compston A (2009): Was Charles Darwin interested in the brain? *Brain. 132*: 3191-2. [DOI:10.1093/brain/awp302]. In this short editorial Compston asks ‘Have we got the wrong Darwin?’ suggesting that grandfather, Erasmus, was far more interested in the brain and neurology.

Cubelli R, Zago S (2007): Antonio Berti, Giovanni Brugnoli and the first studies on aphasia in Italy. *Cortex. 43*:1032-5. This editorial describes the reception in Italy of left-hemisphere localisation of speech by Antonio Berti (1812-79) and Giovanni Brugnoli (1814-1894) with short biographies of the scientific careers of these two Italian physicians.


system in the mid-nineteenth century in an attempt to understand rigor mortis and developed a theory that muscle contraction was due to the cessation of nerve input which, although comprehensively wrong, nevertheless helped Hughlings Jackson to establish his ideas about the central disinhibitions which occur in certain epileptic events.


Fusar-Poli P, Howes O, Borgwardt S. (2009): Johann Cristian Reil on the 200th anniversary of the first description of the insula (1809). *J Neurol Neurosurg Psychiatry.* 80: 1409 [DOI:10.1136/jnnp.2009.185884]. In addition to providing the first description of the insular cortex (insula), Reil also contributed much to late 18th century psychiatry and this article reviews his life and work.


Goetz CG (2009): Jean-Martin Charcot and his vibratory chair for Parkinson disease. *Neurology* 73:475-8. This study analyzes printed writings by Charcot and others on vibratory therapy and discusses unpublished notes from the Salpêtrière Hospital.


Haines DE (2007): Santiago Ramón y Cajal at Clark University, 1899; his only visit to the United States. *Brain Res.Rev.* 55: 463-80. A well-illustrated account of the events surrounding Cajal’s visit to Clark University and other parts of the northeastern US: his only visit to the USA

Harris LJ, Almerigi JB (2009): Probing the human brain with stimulating electrodes: the story of Roberts Bartholow's (1874) experiment on Mary Rafferty. *Brain Cogn.* 70: 92-115. [DOI:10.1016/j.bandc.2009.01.008]. The 1874 experiment is regarded as the first of its kind and this article attempts to tell the whole story and follows this with an account of its citation record into our own times

Healy DG (2007): Did Géricault’s ‘Madwoman Obsessed With Gambling’ have Parkinson’s disease? *Mov. Disord.* 22: 1069-70. In 1822 Géricault was commissioned by the Salpêtrière to make ten paintings to illustrate the facial expressions shown by psychiatric patients and Healy suggests that the ‘gambling madwoman’ might have been suffering from the newly described Parkinson’s disease.

Hellal P, Lorch MP (2007): The Validity of Barlow’s 1887 Case of Acquired Childhood Aphasia: Case Notes Versus Published Reports. *J.Hist. Neurosci.* 16: 378-94. The discovery of the original case notes of this much-discussed case throws doubt on on its interpretation in the subsequent literature

Hemelsoet D, Hemelsoet K, Devreese D (2008): The neurological illness of Friedrich Nietzsche. *Acta. Neurol. Belg.* 108: 9-16. At the age of 44 Nietzsche (1844-1900) suffered a mental breakdown from which he never recovered. This study reviews the various diagnoses that have been proposed and concludes that cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy (CADASIL) best accounts for his the symptoms


Horst C (2007): Heinrich Heine and syphilis. *Front.Neurol.Neurosci.* 22: 105-20. The underlying illness which confined Heine to his ‘mattress grave’ has never been fully clarified but an evaluation of all the evidence in its historical context suggests that his death 151 years ago was due to opium abuse.
Ijpma FF, Van De Graaf RC, Meek MF (2008): The early history of tubulation in nerve repair. *J Hand Surg Eur* 33: 581-6. The first experiments in bridging nerve gaps using nerve tubulation emerged in the 19th century and this paper reviews the work of Gluck (1853-1942), Neuber (1850-1932) and Vanlair (1839-1914).


Jacyna S (2009): The most important of all the organs: Darwin on the brain. *Brain* 132: 3481-7 [DOI:10.1093/brain/awp283]. The first section of this article considers the part played by what might broadly be defined ‘neurological’ materials in the shaping of Darwin's theory and the following section provides a brief review of the impact that Darwin's ideas were to have upon subsequent neurological thought.


Kempster PA, Alty JE (2008): John Ruskin's relapsing encephalopathy. *Brain* 131: 2520-5. In middle age Ruskin (1819-1900) suffered recurring delirium with visual hallucinations and this paper discusses the causes of the symptoms and concludes that the best diagnosis is Autosomal Dominant Arteriopathy with Subcortical Infarcts and Leukoencephalopathy (CADASIL).


Kotowicz Z (2007): The strange case of Phineas Gage. *History of the Human Sciences* 20: 115-131. Kotowicz concludes, after a close examination of the evidence that there was nothing psychopathic in Gage’s behaviour but that, on the contrary, it was his way of dealing with the disfigurement caused by the accident.


Louis ED (2008): Weir Mitchell's 1859 demonstration of "a peculiar contraction" produced by a percussion hammer. *Neurology* 70: 969-73. It is shown that percussion stretch reflexes were well known to Weir Mitchell in 1859 several decades before the publications of Erb and Westphal, although relationships to disease was not discussed in Mitchell’s report.


Manjila S, Haroon N, Parker B, Xavier AR, Guthikonda M, Rengachary SS (2009): Albert Wojciech Adamkiewicz (1850-1921): unsung hero behind the eponymic artery. *Neurosurg Focus* 26: E2. A biography of the Polish pathologist Adamkiewicz, after whom the landmark artery is named. The authors bring to light the historical perspective of the eponymic artery and provide a recapitulation of other significant contributions made by Adamkiewicz, mostly involving the nervous system.

Mut M, Dinç G, Naden, S (2007): On the report of the first successful surgical treatment of brain abscess in the Ottoman Empire by Dr. Cemil Topuzlu in 1891. *Neurosurgery. 61*: 869-72; discussion 872. Cemil Topuzlu was the founder of modern surgery in the Ottoman empire and in 1891 was the first to successfully treat a brain abscess.

Okun MS, Koehler PJ (2007): Paul Blocq and (psychogenic) astasia abasia. *Mov Disord.* 22: 1373–8. Although it is now regarded as a conversion disorder, Blocq (1860-1896) described astasia-abasia as a separate disease and this paper partly translates his 1888 papers from French into English and reviews a selection of the subsequent literature.

Ovsyannikov SA, Ovsynannikoc AS (2007): Sergey S Korsakov and the Beginning of Russian Psychiatry. *J.Hist.Neurosci 16*: 58-64. Korsakof (1854-1900) founded the Moscow school of psychiatry, was the first to give a clear account of paranoia and a leader in humane patient management.


Paciaroni M, Bogousslavsky J (2009): How did stroke become of interest to neurologists?: a slow 19th century saga. *Neurology* 73: 724-8. [DOI: 10.1212/WNL.0b013e318b59c1a2009]. It was not until the first half of the 19th century that the vascular nature of strokes was readily recognized and its study was triggered by the development of clinical-topographic correlation studies. These studies were promoted by Déjerine and Marie, followed by Foix, the father of modern clinical stroke research.

Pearce JM (2008): Wernicke-Korsakoff encephalopathy. *Eur Neurol. 59*: 101-4. This paper summarises the salient aspects of the syndrome and discusses the contributions of Wernicke and Korsakoff and of a number of other nineteenth century investigators.

Pearce JM (2008): Historical note. Richard Bright and epilepsy. *J Neurol Neurosurg Psychiatry. 79*: 840-1. A brief account of Richard Bright (1789-1858) who was the first to recognise that epilepsy originated in the cortex rather than in the medulla.


Pearce JM (2009): The ophthalmoscope: Helmholtz's Augenspiegel. *Eur Neurol. 61*: 244-9. Epub 2009 Jan 31. Although there were several precursors it was Helmholtz who created the first useable ophthalmoscope and his achievements and biography are outlined in this paper.

Pearce JM (2009): Henry Gray’s Anatomy. *Clin.Anat. 22*: 291-5. Little is generally known of Henry Gray, the author of *Gray's Anatomy*, and even less of his colleague Henry Vandyke Carter, who played a vital role in the dissections and illustrations which led to the production of the first volume in 1859. This essay sketches briefly the salient aspects of these two men and their divergent careers and traces the subsequent fate of this unique book.

Pearce JM (2009): Richard Bright and his neurological studies. *Eur Neurol. 61*: 250-4. Epub 2009 Jan 31. Remembered for his account of glomerulo-nephritis (Bright's disease) he also made many important and original contributions to medicine and neurology and this article outlines his career and contributions to neurology.


Perrini P, Nannini T, Di Lorenzo N (2007): Francesco Rizzoli (1809-1880) and the elusive case of Giulia: the description of an ‘arteriovenous aneurism passing through the wall of the skull’. *J.Neurosurg. Sci 51*: 33-7. The Italian surgeon Rizzoli was able in 1873 to use the 9 year old Giulia’s signs and symptoms to predict the angioarchitecture of her condition and the clinical course of that case is discussed in the light of current neurosurgical knowledge.


An intriguing epilogue to an important landmark in Australian neurosurgery. [DOI:10.1080/09647040600792622]


* Reis CVC, Sankar T, Crusius M, et al. (2008): Correlative study of cranial topographic procedures: Broca’s legacy toward practical brain surgery. *Neurosurgery* 62: 294-310. Early neurosurgeons needed external landmarks by which to find the locations of brain structures. Broca was a pioneer in this effort. This paper reviews his method and many that followed him, including some original anatomical research by the authors to test the accuracy and the comparability


Reynolds E (2007): Todd, Faraday and the electrical basis of brain activity. *Pract.Neurol.* 7: 331-5. The origins of our understanding of brain electricity and the electrical discharges of epilepsy can be traced to Robert Bentley Todd (1809-60) who was influenced by his London contemporary Michael Faraday (1791-1867) and this paper reviews Todd’s electrophysiological ideas.

Reynolds EH (2007): Jackson, Todd and the Concept of ‘Discharge in Epilepsy’. *Epilepsia* 48: 2016-2022. It is argued that it is incorrect to attribute to Jackson the credit of first proposing the concept of electrical discharges in epilepsy in 1890; this credit should go to Todd, a generation earlier, in the Lumleian lectures of 1849.


A review of the longstanding interest of Cajal in hypnosis and anomalous phenomena and of the work of other Spanish hypnosis pioneers


Schiffter R (2007): Romberg: a biographical sketch. Fortschr. Neurol. Psychiatr. 75: 160-7. The life, work and principal scientific contributions of Moritz Heinrich Bomberg (1795-1873), often considered to be one of the most important originators of clinical neurology, is summarised with newly discovered photos, portraits and documents. (In German)


Skoromets AA, Akimenko MA (2007): The History of Neurology in St Petersburg. J.Hist.Neurosci. 16: 90-99. This paper stresses the original character of the St Petersburg school of neurology and reviews the work of the many neurologists who were associated with it.

Snyder, PJ, Pearn, AM (2007): Historical note on Darwin’s consideration of early-onset dementia in older persons, thirty-six years before Alzheimer’s initial case report. Alzheimer’s and Dementia 3: 137-142. Between 1869 and 1875 James Crichton-Browne, Director of the West Riding Pauper Lunatic Asylum, knowing of Darwin’s work on the Expression of the Emotions (1872) wrote to the naturalist describing his observations of the extreme emotional expressivity accompanying ‘senile decay’; Darwin took note of these observations in his book and Snyder and Pearn argue that this is the first occasion when emotional release due to ‘brain wasting’ was described, thirty six years before the work of Alois Alzheimer.

Stahnisch FW (2008): Ludwig Edinger (1855-1918). J Neurol. 255: 147-8. A brief biography of one of the founders of comparative neurology who was also a fine artist and developed an interest in hypnotism

Stahnisch FW (2008): Ludwig Edinger (1855-1918). J Neurol. 255: 147-8. A brief biography of one of the founders of comparative neurology who was also a fine artist and developed an interest in hypnotism


Tubbs RS, Loukas M, Shoja et al. (2008): François Magendie (1783-1855) and his contributions to the foundations of neuroscience and neurosurgery. *J Neurosurg.* 108:1038-42. Magendie made significant contributions to neuroanatomy, physiology and pharmacology and this review shows that he can also be regarded as an early pioneer of neurosurgery.

Tubbs RS, Loukas M, Shoja MM et al (2008): François Magendie (1783-1855) and his contributions to the foundations of neuroscience and neurosurgery. *J. Neurosurg.* 108:1038-42. A review of the life and work of Magendie concluding that, in addition to so much else, he can also be considered an early pioneer of neurosurgery.


Vein AA (2008): Leo Tolstoy's theory of sleep. *Sleep Med.* 9:320-3 Throughout his life Tolstoy was fascinated by the phenomena of sleep and this paper reviews his many writings on this topic.


Walusinski, O (2007): Observation of a nervous disease attended by disturbed sleep, at times lethargic and at times convulsive. Edmé Chauvet de Beauchêne (1786). *J. Neurol. Neurosurg. Psychiatry.* 78: 975-6. Kleine in 1925 and then Levin in 1936 are conventionally credited with the first description of ‘Kleine-Levin syndrome’ (KLS) but this paper argues that the French physician, Beauchêne (1749-1824), described a case in 1786 in his publication *Observation sur une maladie nerveuse*.


**Twentieth Century**


other in a network? Is there some basic organisational principal underlying brain networks? This paper reviews developments towards answering these questions during the century since Golgi and Cajal.


Baran B, Bitter I, Ungvari GS, Nagy Z, Gazdag G (2008): The beginnings of modern psychiatric treatment in Europe. Lessons from an early account of convulsive therapy. Eur Arch Psychiatry Clin Neurosci. 258: 434-40. Convulsive therapy was initiated by László Meduna, a Hungarian psychiatrist, in the early 1930s and this paper reviews the original notes and discusses the case from both diagnostic and therapeutic points of view.


Using two examples, drills to perform cranial bone cuts and an imaging device providing an axial view of the lumbar spine, the authors discuss the factors influencing the evolution of neurosurgical technology.


Bleck TP (2009): Historical aspects of critical care and the nervous system. *Crit Care Clin.* 25: 153-64. Although the genesis of neurocritical care begins in prehistory, this article gives a predominantly North American history, emphasising the work of Walter Dandy at Johns Hopkins in the 1930s, with brief forays into the rest of the world community of neurointensivists.


Buda O, Arsene D, Ceausu M, Dermengiu D, Curca GC (2009): Georges Marinesco and the early research in neuropathology. *Neurology* 72: 88-91. Marinesco was a prolific researcher in the field of neuropathology, especially neurodegeneration but also in clinical neurology. He is now considered the founder of the modern Romanian school of neurology.


Collmann H, Vitzthum HE (2008): Historical perspective on neurosurgery in Germany after World War II. *Neurosurgery* 63: 989-99; discussion 999-1000. An account of the development of neurosurgery in Germany after the collapse of the Third Reich, in both East and West Germany and subsequently in the unified Germany.

Cybulski GR, Stone JL, Patel KJ (2008): Sir Victor Horsley's contributions to the study and treatment of gunshot wounds of the head. *Neurosurgery*. 63: 808-11; discussion 811-2 A review of Horsley’s experimental and clinical studies of gunshot wounds to the head in his publications from 1894-1897 and from 1914 to 1915. It is argued that they have largely stood the test of time.


De Carlos JA, Borrell I (2007): A historical reflection on the contributions of Cajal and Golgi to the foundations of neuroscience. *Brain Res.Rev. 55*: 3-7. A well-illustrated review of the importance of Cajal’s studies using the Golgi technique as well as of the similar studies carried out by Golgi and the events which occurred during the Nobel ceremonies. The paper ends with an assessment of the contributions of both scientists to the founding of modern neuroscience.


Devinski J, Lowenstein D, McElrea R (2009): Harold Shaw and the Ross Sea Party: Epilepsy in the Antarctic. *J.Hist.Neurosci. 18*: 320-328. The 29-year-old Shaw, although subject to epileptic seizures, was a member of the party charged with supplying Shackelton’s Antarctic expedition and this paper reviews his life and his post-ictal behaviours.


Devinsky O (2009): Norman Geschwind: influence on his career and comments on his course on the neurology of behavior. *Epilepsy Behav. 15*:413-6 [DOI:10.1016/j.yebeh.2009.04.029]. A study of Geschwind’s scientific career, including those by whom he was influenced and his legacy.


Díaz JL (2009): The legacy of Cajal in Mexico. *Rev Neurol 48*: 207-15. It is shown that because of the Spanish Civil War (1936-9) a number of researchers from the Cajal Institute in Madrid migrated to Mexico where they pioneered the neurological sciences at the National University of Mexico (UNAM).


Feindel W (2007): the physiologist and the neurosurgeon: the enduring influence of Charles Sherrington on the career of Wilder Penfield. *Brain* 130: 2758-65. In 1915, as a Rhodes scholar at Oxford, Penfield followed the first course in mammalian physiology given by the newly appointed professor, Charles Sherrington, which, it is argued, gave him the groundwork for his latter career as a physiological neurosurgeon.
#Feindel W, Leblanc R, de Almeida AN (2009): Epilepsy surgery: historical highlights 1909-2009. *Epilepsia. 50 Suppl 3*:131-51. This review begins with the reports of Horsley, Krause, and Cushing which appeared in 1909, the year that ‘The International League Against Epilepsy (ILAE)’ was inaugurated, and then outlines key contributions from Europe and North America, particularly the evolution of our understanding of temporal lobe seizures.


Galende AV (2008): Neuroscientists in the Third Reich. *Neurologia 23*: 126-35. An analysis of the effects of the Nazi regime on German neurologists and neuroscientists showing the perverse role that politics may play in medicine and that science should not forget ethics. (In Spanish)


* Garcia-Marin V, Garcia-López P, Freire M (2007): Cajal’s contributions to glia research. *TINS, 30*, 479-87. This paper focuses on Cajal’s histological research into glial cells including reproductions of his original drawings and argues that in the study of glia as well as in that of neurons he was far ahead of his time.

210. This paper reviews the discovery of the growth cone by Cajal in 1890 and discusses his view of its function in the light of modern knowledge

Gardner PA, Prevedello DM, Kassam AB, et al. (2008): The evolution of the endonasal approach for craniopharyngiomas. *Journal of Neurosurgery* 108:1043-1047. Craniopharyngiomas have always been an extremely challenging type of tumor to treat. The authors present a historical review of the literature from the introduction of the endonasal route for resection of craniopharyngiomas until the present

Gazdag G, Baran B, Kárpáti M, Nay Z (2007): The history of Lipótmező, the site of the first convulsive therapy. *JECT* 23:221-3. The first convulsive therapy was performed by László Meduna in 1934 at the ‘Lipót’ and this paper reviews the subsequent 70 years ending with an account of its closure in 2007.


# Gilkes CE (2008): An account of the life and achievements of Miss Diana Beck, Neurosurgeon (1902-1956). *Neurosurgery* 62:738-742. Diana Beck “was probably the first female neurosurgeon in the world and played a large part in establishing neurosurgery in the United Kingdom.” She came to public attention when she operated on Alan Alexander Milne in 1952

Gill AS, Binder DK (2007): Wilder Penfield, Pio del Rio-Hortega, and the discovery of oligodendroglia. *Neurosurgery* 60: 940-8. In 1924 Penfield visited Spain to work with Cajal and Rio-Hortega and one of the results was the publication of a seminal article characterising this important class of glial cells.


* Goedert M (2009): Oskar Fischer and the study of dementia. *Brain* 132: 1102-1111. In the centenary of Alzheimer’s first descriptions of his eponymous condition little has been written of the contemporaneous work of Oskar Fischer: this extensive and well-illustrated paper redresses that omission.


Golden RL (2009): Gertrude Stein (1874-1946) and the nucleus of Darkschewitsch: a discursive commentary. *J Med Biogr.* 17: 55-60. As a medical student at Johns Hopkins University Gertrude Stein carried out research on the nucleus of Darkschewitsch and in this paper the background of Darkschewitsch, little known in the West, is explored particularly in regard to his relationship and collaboration with Sigmund Freud.


Guillery RW (2007): Relating the neuron doctrine to the cell theory. Should contemporary knowledge change our view of the neuron doctrine? *Brain Res. Rev.* 55: 411-21. This paper argues that the neuron ‘doctrine’ and the cell ‘theory’ have significant differences and that it is now time to assess whether the further reaches of the neuron doctrine can any longer be defended.


Harat M, Rudas M, Rybakowski J (2008): Psychosurgery: the past and present of ablation procedures. *Neuro Endocrinol Lett.* 29 (suppl 1): 105-22. A history of psychosurgery from the 1930s with a special focus on so-called "ablation" procedures such as anterior cingulotomy, anterior capsulotomy, subcaudate tractotomy, and limbic leucotomy.


Hermesniemi J, Dashin R, Mateo O et al. (2008): Historical landmarks in vascular neurosurgery "On July 10th 2006, at the 70th Anniversary of the Department of Neurosurgery of Zürich Medical School". Acta Neurochir. Suppl.;103:131-7. Direct aneurism neurosurgery started more than seventy years ago with the introduction of cerebral angiography by Moniz and the operating microscope forty years later by Yasargil and this paper reviews this history and continues the story into contemporary times

Hsu W, Li KW, Bookland M, Jallo GI (2009): Keyhole to the brain: Walter Dandy and neuroendoscopy. J Neurosurg Pediatr. 3: 439-42. This paper reviews Dandy’s contributions to the early evolution of this growing and important field of neurosurgery


Idris B, Sayuti S, Abdullah JM (2007) History of the neurosciences at the School of Medical Sciences, Universiti Sains Malaysai. J.Clin.Neurosci. 14: 148-52. An account of the development, academic contributions and scientific progress in the neurosciences at the Universiti Sains Malaysai, the only institution in Malaysia where all the basic and applied neurosciences are gathered under one roof.

Ivanova-Smolenskaya IR, Markova ED (2007): Nikolai V.Konovalov (1900-1966): His Role in the Development of Neurology and the Creation of the Institute of Neurology of the Russian Academy of Medical Sciences. J.Hist.Neurosci. 16: 160-67. In addition to a large number of fundamental scientific papers he made a significant contribution to the establishment of the Institute of Neurology in the Russian Academy of Medical Sciences

Jacobson RD (2009): President Wilson’s Brain Trust: Woodrow Wilson, Francis X Dercum, and American Neurology. J.Hist.Neurol. 18: 59-75. This paper uses the records of President Wilson’s treatment for stroke and rehabilitation to illustrate the state of early twentieth-century neurology


Jerath NU, Newman JS, Boes CJ (2009): The biography of Mary E. O'Sullivan: an early American headache specialist. Cephalalgia. 29:1028-33. [DOI: 10.1111/j.1468-2982.2009.01845.x]. Although her life was short, her research, knowledge and ambition, at a time when women had limited opportunities in medicine, have left a mark.
# Jones EG (2007): Neuroanatomy: Cajal and after Cajal. *Brain Res.Rev.* 55: 248-55. Starting with a consideration of the development by Cajal of Golgi’s microtechnique, this paper reviews the evolution of fibre tracing techniques into the contemporary era emphasising that, though neuroanatomy may not be fashionable, it is nevertheless essential in all areas of neuroscience.


Kalueff AV, Zimbardo PG (2007): Behavioural neuroscience, exploration and K.C.Montgomery’s legacy. *Brain Res.Rev* 53: 328-31. This paper summarises the contributions Montgomery (1921-1956) made to behavioural neuroscience and discusses the current importance of these contributions for further progress in this field.


#Kasper BS, Chang BS, Kasper EM (2009):Microdysgenesis: Historical roots of an important concept in epilepsy. *Epilepsy Behav.* 15:146-53. Epub 2009 Apr 24. This article undertakes a careful evaluation of original publications on MD in the epilepsy literature and demonstrates that the concept is anchored in a set of papers written between 1890 and 1930 and their contemporaneous reception in classic neuropsychiatric handbooks.


Kotowicz, Z (2008); Psychosurgery in Italy, 1936-39. Hist. Psychiatry 19: 476-489. The article argue that both the political conditions and the merging of neurology and psychiatry in Italy during the late 1930s allowed a far more rapid introduction of psychosurgical techniques there than elsewhere


Kruger L (2007): The sensory neuron and the triumph of Camillo Golgi. Brain Res.Rev. 55: 406-10. It is argued that with the benefit of 21st century hindsight the stand-off between Cajal and Golgi at the 1906 Nobel Prize was unnecessary: both were partially right.


Lindholm J (2007): A century of pituitary surgery: Schloffer's legacy. *Neurosurgery* 61: 865-7; discussion 867-8. In 1907 Hermann Schloffer performed the first transsphenoidal operation for pituitary adenoma and this paper reviews the legacy of this pioneering surgery including its influence on subsequent treatment for acromegaly.


Louis ED (2008): Weir Mitchell's 1859 demonstration of "a peculiar contraction" produced by a percussion hammer. *Neurology* 70: 969-73. It is shown that percussion stretch reflexes were well known to Weir Mitchell in 1859 several decades before the publications of Erb and Westphal, although relationships to disease was not discussed in Mitchell’s report.


# Mathews MS, Linskey ME, Binder DK (2008): William P. van Wagenen and the first corpus callosotomies for epilepsy. *Journal of Neurosurgery* 108: 608-613. A trainee of Harvey Cushing, William van Wagenen performed the first human callosotomies in the 1940s, and the patients were examined by Andrew Akelaitis, two decades before the work of Roger Sperry led to his Nobel prize in 1981.


McClelland S III (2008): Alexa Irene Canady: the first African-American woman neurosurgeon. *J. Natl. Med. Assoc.* 100: 439-43. This paper details the career and achievements of Alexa Canady, trained under Dr Chou at the University of Minnesota, whose distinguished career helped to open the door to neurological careers for subsequent Afro-Americans


Meijer OG, Bruijn SM (2007): The Loyal Dissident: N.A.Bernstein and the double-Edged Sword of Stalinism. *J.Hist.Neurosci.* 16: 206-24. Nikolai Bernstein (1896-1966) studied movement in order to understand the brain and it is argued that the consistency of his work derived both from dialectical materialism and the relentless attacks of the neo-Pavlovians

# Moreno-Diaz R, Moreno-Diaz A (2007): On the legacy of W.S.McCulloch. *Biosystems* 88: 185-90 A review of McCulloch’s work and legacy, from his early work on neurophysiology and its relation to his philosophical quest for an ‘experimental epistemology’, through his role in cybernetics in the 1940s and 50s, to his final contributions to computer science and communication theory.

Morrison JF (2008): The discovery of the pontine micturition centre by F. J. F. Barrington. *Exp Physiol.*, 93:742-5. Barrington (1884-1956) was the first neurosurgeon to recognise the importance of the association between the brainstem and the lower urinary tract (1925) and this paper reviews his work and its subsequent influence


Noteman J (2007): Paul Martin (1891-1968), pioneer of the neurosurgery in Belgium and cofounder member of the review "Neurochirurgie". *Neurochirurgie.* 53 :356-60. Martin was the first chief of an independent neurosurgical unit founded in Belgium in 1948 and one of the founders of *Neurochirurgie* and this article reviews his scientific career.


Pearce JM (2007): Osler and the Churg-Strauss syndrome. *Eur.Neurol. 57*: 185-7. This paper records a patient of Osler’s who showed many features of Churg-Strauss syndrome which was only to be described fifty years later.


Pearn, J (2007): Looking both ways: the Jamieson Memorial Lecture,2006. *ANZ J.Surg. 77*: 410-17. In this lecture, commemorating the life and work of Jamieson (1925-76), Pearn argues that hindsight and a knowledge of history is as important as foresight for the development of neurosurgery and other medical specialities.


Pedley TA (2009): Major advances in epilepsy in the last century: a personal perspective. *Epilepsia. 50*: 358-63. A useful overview of the development of epilepsy research in the 20th century showing how understanding of the disease has moved from an anatomo-physiologic perspective to a molecular neurobiological understanding.


Reynolds EH, Trimble MR. (2009): Epilepsy, psychiatry, and neurology. Epilepsia. 50 Suppl 3: 50-5. A review of the relationship between the psychiatry and neurology of epilepsy, especially in the last 100 years. (see also articles by Shorvon listed below)


Rottleb U, Steinberg H (2007): The Möbius-Foundation – a source-based study in the history of promoting psychiatric and neurological research. *Psychiatr. Prax. 34*: 188-93. A history of the foundation set up in 1907 to honour achievements in neurology and psychiatry and whose history (it is argued) mirrors the social changes in Germany and German psychiatry in the first half of the twentieth century.

Santaren, JF, Sanchez-Ron, JM (2009): Science and Politics: Ramon y Cajal’s Intervention in Giuseppe Levi’s 1934 Liberation. *J.Hist.Neurosci. 18*: 137-49. This paper discusses three letters written by Spanish scientists regarding the imprisonment of the Italian histologist Giuseppe Levi and indicate that the controversy about collaterals between Golgi and Cajal was still ongoing at this time.


Sarkcioglu L, Sindel M (2007): Pierre Mollaret (1898-1987) and his legacy to science. *J. Neurol Neurosurg Psychiatry 78*: 1135. Mollaret made significant contributions to both neurology and epidemiology and this short article provides a scientific biography.


Sedvall, G (2007): A quest for antipsychotic drug actions in the brain: personal experience from 50 years of neuropsychiatric research at Karolinska Institutet. Physiol.Behav. 92: 238-44. A personal account of the author’s training and research career at the Karolinska Institute emphasising the importance of integrating basic and clinical neuroscience.


Shevell, M (2009): The tripartite origins of the tonic neck reflex: Gesell, Gerstmann, and Magnus. Neurology 72: 850-3. Three leaders of early 20th century neuroscience (Rudolf Magnus, Josef Gerstmann, and Arnold Gesell) elaborated different aspects of this primitive reflex and this paper reviews their work


Shorvon SD (2009): A history of neuroimaging in epilepsy 1909-2009. Epilepsia. 50 Suppl 3:39-49. Profound advances in the field of clinical imaging in epilepsy occurred between 1909 and 2009, the century of the International League Against Epilepsy, and these are reviewed briefly in this paper.

Shorvon SD (2009): Drug treatment of epilepsy in the century of the ILAE: the second 50 years, 1959-2009. *Epilepsia 50 Suppl 3*:93-130. Advances in therapeutics included the incorporation of pharmacokinetics into clinical practice, enormous advances in neurochemistry, a trend to antiepileptic drug monotherapy, better drug assessment, better understanding of therapeutic outcomes, and the recognition of the large epilepsy treatment gap that occurred in many countries during this period. To what extent all this resulted in better prognosis of the condition is ‘an interesting and perplexing question’.

Shorvon SD, Weiss G, Goodkin HP. (2009): Notes on the origins of *Epilepsia* and the International League Against Epilepsy. *Epilepsia 50*:368-76. The recent discovery of archival material has shed interesting light on the origins of *Epilepsia* and also on the origins of the International League Against Epilepsy (ILAE) and this paper discusses these findings.


Snyder SH (2009): Neurotransmitters, receptors, and second messengers galore in 40 years *J Neurosci. 29*: 12717-21. [DOI:10.1523/JNEUROSCI.3670-09.2009]. To celebrate the 40th anniversary of the Journal this essay highlights a selected group of particularly notable discoveries, emphasizing seminal findings that have transformed thinking in the field.

Sonntag VK (2007): Neurotransmitters, receptors, and second messengers galore in 40 years *J Neurosci. 29*: 12717-21. [DOI:10.1523/JNEUROSCI.3670-09.2009]. To celebrate the 40th anniversary of the Journal this essay highlights a selected group of particularly notable discoveries, emphasizing seminal findings that have transformed thinking in the field.


Sourkes TL (2009): Acetylcholine – From Vagusstoff to cerebral Neurotransmitter. *J.Hist.Neurosci., 18*: 47-58. The rise of the Nazi regime in Germany caused many of those involved in the development of a knowledge of vagusstoff/Ach to emigrate to North America and this paper reviews their contributions.

Spiotta AM, Bain MD, Lautzenheiser FK, Barnett GH (2009): Neurological surgery at the Cleveland Clinic: a historical perspective. *Neurosurgery 64*:164-70; discussion 170-1. A history of one of the largest and most specialised departments of neurosurgery in the USA.

Squire LR (2009): The legacy of patient H.M. for neuroscience. *Neuron. 61*: 6-9. H.M. is probably the best known single patient in the history of neuroscience. His severe memory impairment, which resulted from experimental neurosurgery to control seizures, was the subject of study for five decades until his death in December 2008.

Steinberg H (2008): Oswald Bumke in Leipzig. Beyond Kraepelin, Freud and Rüdin's Entartungslehre. *Nervenarzt.* 79: 348-56. In the early part of the twentieth century Bumke exerted a considerable influence of German neuropsychology but owing to the political situation in mid-century was unable to gain much support from his colleagues. (In German)

Steinberg H, Wagner A (2008): Hans Steinert: 100 years of myotonic dystrophy. *Nervenarzt* 79: 961-2, 965-70. This study includes a detailed biography of Hans Steinert (1875-1911) who was the first (1909) to describe myotonic dystrophy (Steinhert's disease) as an independent entity. (In German)


Strotzer M (2009): One century of brain mapping using Brodmann areas. *Klin Neuroradiol.* 19:179-86. On the centenary of the publication of his maps the life and work of Korbinian Brodmann is reported, the core functions of each Brodmann area are described and Brodmann's views on neuropsycho logical processes are depicted.


Teive HA, Munhoz RP, Barbosa ER (2009): Professor Karl-Axel Ekbom and restless legs syndrome. *Parkinsonism Rel.Disord.* 15: 254-7. The authors provide an historical review of restless legs syndrome, emphasizing the contribution of Professor Karl-Axel Ekbom, the Swedish neurologist who made the first detailed clinical description of this disease.

Tfelt-Hansen PC, Koehler PJ (2008): History of the use of ergotamine and dihydroergotamine in migraine from 1906 and onward. *Cephalalgia* 28: 877-86. Dale showed in 1906 that ergot inhibits the pressor effect of adrenaline and this paper follows the history of its use in migraine treatment into the twenty-first century.

Todman DH (2007): John Newport Langley (1852-1925) [http://www.ibro.info/Pub/Pub_Main_Display.asp?LC_Docs_ID=2572]. Langley succeeded Foster in the Chair of Physiology at Cambridge in 1903 and is mainly remembered for his work in neuropharmacology, for coining the term 'autonomic nervous system' and for his large text on that topic published in 1921 and this article summarises his scientific career.


Toledo-Pereyra LH (2008): Innovation according to Cushing. *J. Invest. Surg. 21*: 97-100. Details of Cushing’s innovative contributions to neurosurgery within the context of his personality and the development of his speciality are discussed.


# Triarhou LC (2007): Constantin von Economo (1876-1931)
<http://www.ibro.info/Pub/Pub_Main_Display.asp?LC_Docs_ID=2767>
A beautifully illustrated and well-referenced account of the life and scientific career of the joint author with Koskinas of the (1925) *Atlas of Cytoarchitectonics*


Triarhou LC, de Cerro M (2007): Christfried Jakob (1886-1956). *J.Neurol. 254*: 124-5. Not to be mistaken for the Jakob of Jakob-Creutzfeldt disease, Christfried Jakob was born in Bavaria but emigrated to Argentinia where he was instrumental in founding the Argentinian school of neurology.

Triarhou LC (2008): Centenary of Christfried Jakob's discovery of the visceral brain: an unheeded precedence in affective neuroscience. *Neurosci Biobehav Rev. 32*: 984-1000. It is argued that Jakob was the first to identify the ‘visceral brain’ and many of its key components and this conclusion is supported by the first English translations of relevant passages from his writings.

Tsagareli MG (2007): Ivane Beritashvilli: Founder of Physiology and Neuroscience in Georgia. J.Hist.Neurosci. 16: 288-306. A biographical account of the Georgian physiologist, Beritashvilli (1884-1974), founder of the Department of Physiology and the Institute of Physiology at the University of Tbilisi who showed that animal psychoneural behaviour was driven by image-driven memory. [DOI: 10.1080/0964704060060148]

Tsapkini K, Vivas AB, Triarhou LC (2008): 'Does Broca's area exist?' Christofredo Jakob's 1906 response to Pierre Marie's holistic stance. Brain Lang.105: 211-9  A translation of Jacob’s paper written in response to the 1906 debate on language localisation with a discussion of his ideas on the rôle of Broca’s area which the authors believe is still relevant to contemporary discussions


Vein AA (2008): Science and Fate: Lina Stern (1878-1968), A Neurophysiologist and Biochemist. J.Hist.Neurosci 17: 195-206. Stern founded the Moscow Institute of Physiology in 1929 and was director until 1948; a devoted scientist she is best remembered for her work in the blood-brain barrier. [DOI: 10.1080/09647040601138478]


Weinstein JS, Burchiel KJ (2009) Dandy's disc. Neurosurg 65: 201-205 [DOI: 10.1227/01.NEU.0000346267.60064.3D]. The authors present evidence that Dandy was the first to describe herniation of the intervertebral disc with pathological findings and operative treatment.


Williams DR, LeesAJ, Wherrett JR et al. (2008): J. Clifford Richardson and 50 years of progressive supranuclear palsy. Neurology 70: 566-73. The article traces the events leading to Richardson’s description of progressive supranuclear palsy (PSP) in 1963 and suggests that in view of his seminal observations it should be renamed Richardson’s disease.


Yasnitsky A, Ferrari M (2008): From Vygotosky to Vygotskian Psychology: Introduction to the history of the Kharkov School. J Hist Behav Scis 44: 119-145. This paper shows that Vygotosky’s work was not forgotten in the USSR after his early death in 1934 until rediscovered by Russia and America in the 1950s but morphed into what has become known as the Kharkov School of neuropsychological research.


Young AB (2009): Four decades of neurodegenerative disease research: how far we have come! J Neurosci. 29:12722-8. [DOI:10.1523/JNEUROSCI.3767-09.2009]. This review, marking the 40th anniversary of the Journal, shows the remarkable growth of the field: 40 years ago, for instance, PubMed listed only three articles on AD, today several thousand.

of the title who were the first to reproduce in humans the findings made by electrical stimulation of animal brains.

Zeman A (2007): Sherrington’s philosophical writings – a ‘zest for life’. *Brain* 130: 1984-7. Although Sherrington’s neurophilosophy is often regarded as dualistic this paper argues that he was ‘deeply uneasy’ with this idea and that he remained until the end open-minded and wary of dogmatic solutions.


**Thematic**

Albano C (2008): The puzzle of human emotions: some historical considerations from the 17th to the 19th centuries. *Dev Med Child Neurol.* 50: 494-7. This review describes how the concept of emotion developed in Western thought from the Renaissance notion of the passions to the 19th century idea of 'emotion'.


a conflict between psychiatrists and neurologists over the control and treatment of the mentally ill hindered the treatment of MS.


Devinsky O, Lai G (2008): Spirituality and religion in epilepsy. Epilepsy Behav. 12: 636-43. Throughout history epilepsy has been linked with the supernatural and this paper reviews that history and provides a modern analysis of that linkage.


Eadie MJ (2009): Experimental epileptology before 1900. Epilepsia 50: 377-86. Accounts in English and other major Western European languages are reviewed and it is concluded that the pre-1900 work not only laid the foundations for 20th century experimental studies but also advanced the understanding of the causes of epileptic seizures.

#Eboli, P, Stone, J., Aydin S,. Slavin KV (2009): Historical characterization of trigeminal neuralgia. Neurosurg. 64: 1183-1186. The earliest good descriptions of the ailment are found in the 17th and 18th centuries. There are, however, yet earlier accounts. This paper reviews the history from the earliest times until the 20th century.

Foley P (2007): Succi nervorum: a brief history of neurochemistry. *J Neural Transm Suppl.* 72: 5-15. Although chemical investigation of brain tissue can be traced back as far as Hensing’s 1719 *Cerebri examen chemicum* the study of chemical transmitters only began in earnest in the 1940s and this paper reviews this later work.


Gerstad L, Gilhus NE, Storstein A (2008): A retrospective view on research in neuroscience in Norway. *Acta Neurol Scand Suppl.* 188: 3-5. A brief historical review of research in neuroscience in Norway shows a comparatively high level of activity with many important results


Gross AG (2008): The Brains of Brain: the Coevolution of Localization and its Images. *J.Hist.Neurosci.* 17: 380-92. Images of brain localization in human brain from its inception in the late 19th century to the present are analysed and it is concluded that ‘the brain functions so precisely localized are just those that are not constitutive of our humanity.’ [DOI: 10.1080/09647040701423705]

# Heary RF, Madhavan K (2008): The history of spinal deformity. *Neurosurgery.* 63 (3 Suppl): 5-15. Spinal deformity is one of the oldest diseases known to humankind (documented earlier than 1800 BCE) and this paper reviews the history of its treatment into present time.

# Keesey J, Aarli J (2007): Something in the Blood? A History of the Autoimmune Hypothesis regarding Myasthenia Gravis. *J.Hist.Neurosci.* 16: 395-412. From the first descriptions in the late nineteenth century it has been suspected that MG was due to some factor in the circulation and this paper follows the intricate history of this idea up to the present understanding of MG as an autoimmune disease.

Koehler PJ, Wijdicks EF (2008): Historical study of coma: looking back through medical and neurological texts. *Brain* 131: 877-89. The understanding and clinical examination of coma has evolved over many decades and this paper reviews the accounts given in medical texts published between 1640 and 1960


Moran NF (2008): A more balanced and inclusive view of the history of temporal lobectomy. *Epilepsia* 49:543-4. A letter emphasising that many workers in addition to Penfield and Jaspers at the MNI were involved in the quest for a surgical cure for temporal lobe epilepsy.


Papalia I, Geuna S, D’Alcontres FS, Tos P (2007): Origin and history of end-to-side neurorrhaphy. *Microsurgery 27*: 56-61. The origin of end-to-side neurorrhaphy is usually dated to the beginning of the twentieth century (although publications on the technique can be found as far back as 1873) and a number of interesting clinical and experimental studies were carried out in the last century. This paper reviews this previously rather obscure history.

Pearce JM (2007): A brief history of sciatica. *Spinal Cord 45*: 592-6. Using selected, original quotations and a historical review from the 18th to mid-20th century, this paper appraises the several steps leading to modern concepts of the neurological basis of sciatica.

Pearce JM (2008): The development of spinal cord anatomy. *Eur. Neurol. 59*: 286-91. An illustration of spinal cord injury in a dying lioness dates from 650BCE and this paper outlines the subsequent development of knowledge of the anatomy of the cord into contemporary times


Powell M, Kitchen N (2007): The development of neurosurgery at the National Hospital for Neurology and Neurosurgery, Queen Square, London, England. *Neurosurgery 61*: 1077-90. The history of neurosurgery at Queen Square is described from the time of Horsley until the present and plans for future developments are elucidated.

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Tumialan L M, Barrow DL, Tindall SC (2008): The history of neurosurgery at Emory University in Atlanta, Georgia. Institutions and programs. *Neurosurgery* 62:1361-1369. This article actually starts with Crawford Long and ether. It surveys nineteenth and twentieth century institutions in Atlanta. The first trained neurosurgeon at Emory University was Charles E. Dowman, Sr., a protégé of Cushing, who arrived in 1915.

Uluç K, Kujoth GC, Başkaya MK (2009): Operating microscopes: past, present, and future. *Neurosurg Focus* 27: E4. [DOI: 10.3171/2009.6.FOCUS09120]. After a useful review of operating microscopes from the earliest times to the present, the authors discuss what might be found in the operating rooms of the future


described 11 patients with various form of progressive muscular weakness and this paper reviews the
development of our understanding of this condition into contemporary times

#Wade NJ (2007): Image, eye and retina. *J.Opt.Soc.Amer. A* 24: 1229-1249. Advances in understanding the initial stages of the visual process are reviewed with respect to the passage of light through the eye, as well as its gross anatomy and microscopic structure. The review covers the period from the early seventeenth to the early twentieth centuries.


Neurohistory is an interdisciplinary approach to history that leverages advances in neuroscience to tell new kinds of stories about the past, but especially of deep history. This is achieved by incorporating the advances in neurosciences into historiographical theory and methodology in the attempt to reconstruct the past. It was first proposed by Harvard professor Daniel Lord Smail in his work and it offers historians a way to engage critically with the implicit folk psychologies in the interpretation of history. The Recession of 2007–2009. February 2012. A general slowdown in economic activity, a downturn in the business cycle, a reduction in the amount of goods and services produced and sold: these are all. The most recent recession began in December 2007 and ended in June 2009, though many of the statistics that describe the U.S. economy have yet to return to their pre-recession values. In this Spotlight, we present BLS data that compare the recent recession to previous recessions. U.S. Bureau of Labor Statistics. 1. BLS Spotlight on Statistics: The Recession of 2007-2009. www.bls.gov/spotlight. Unemployment. Birmingham B4 7ET, UK c.u.m.smith@aston.ac.uk This annotated bibliography follows the same lines as the first three-year Neurohistory bibliography. It covers the periodical literature from January 1, 2007 until January 1, 2010. Interest in the history of the neurosciences shows no sign of slackening: indeed quite the reverse. Whereas the first annotated bibliography covering the years 2004-2007 listed some 350 publications, the present bibliography, covering the next three years, lists some 570 articles. These articles have appeared in a wide spectrum of journals and it is hoped that bringing the