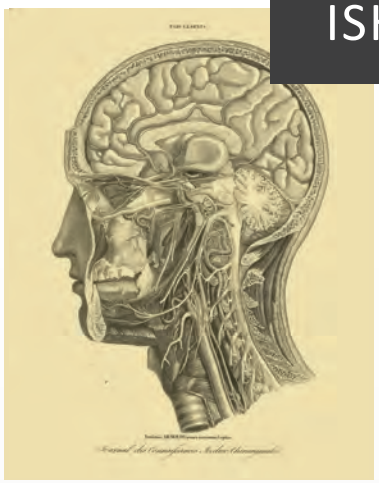
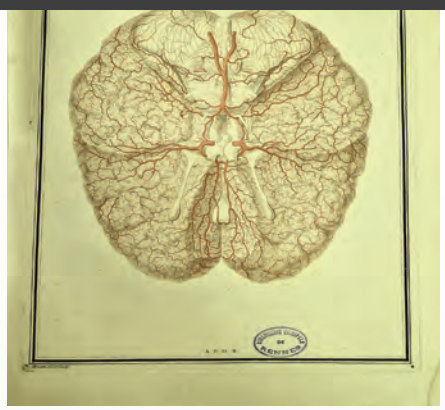
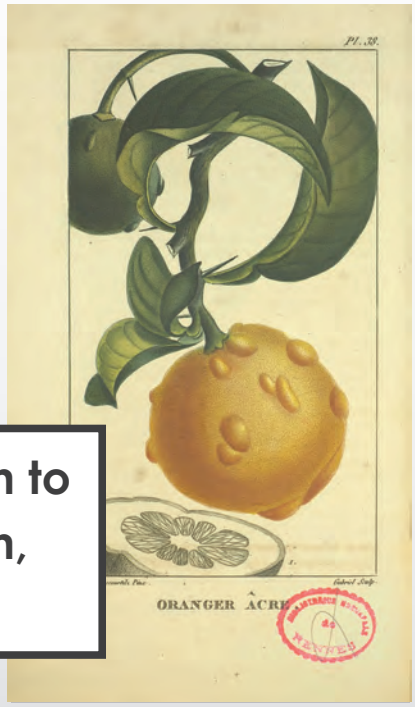
ISHN
Rennes
2023

International Society for the History of the Neurosciences

ISHN 27th Annual Meeting







July 4th to July 8th, 2023

Maison des Associations

Auditorium
6 Cours des Alliés
Rennes, France

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PROGRAM

Tuesday, July 4

9:00	*Opening Rennes's officials*
9:30	**Neurology in Western France** Manon Auffret, Olivier Walusinski, ***Chair:*** Marc Vérin
11:00	Coffee break
11:30	**Memory** Ingrid Daey-Ouwens, ***Chair:*** Julien Bogousslavsky
12:00-14:00	Lunch break and BU Santé exhibition
14:00	**Neuropathology** Peter Koehler, Ardi Roelofs, Brandon Kaye, ***Chair:*** Stanley Finger
15:30	Coffee break
16:00	**Psychiatry** Céline Cherici, Joao Tavares, ***Chair:*** Elisabetta Sirgiovanni
17:00 17:30	**JHN Journal Board ((Editorial Board)**
18:30	Opening Ceremony & Welcome drink Rennes City Hall

Wednesday, July 5

9:00 — Neurology in Canada

Frank Stahnisch, *Chair:* Lorenzo Lorusso

9:30 — Presidential lecture

Manon Auffret, *Chair:* Laurent Tatu

10:00 — Coffee break

10:30 — CPHR Exhibition / Museum

12:00-14:00 — Lunch break and BU Santé exhibition

14:00 — The history of amnesia

Laurent Tatu, Julien Bogousslavsky, *Chair:* Olivier Walusinski

15:30 — Coffee break

16:00 — Poster Session

J. Cootjans, Jonathan Pollock, *Chair:* Manon Auffret

17:00 — Guided tour of Rennes

Thursday, July 6

9:30 — Neurology in Lithuania

Egle Sakalauskaitė-Juodeikienė, *Chair:* Frank Stahnisch

10:30 — Coffee break

11:00 — Invited speaker

Prof. Yves Agid, *Chair:* Marc Vérin & Manon Auffret

12:00-14:00 — Lunch break (meal not included)

14:00 — Field trip to Saint Malo

Afternoon: Guided Tour of St Malo (2hrs), Free time in St Malo (1hr)

Evening : Gala dinner (Domaine du Montmarin)

Friday, July 7

10:00 — Neurology & Munch

Stanley Finger, Elisabetta Sirgiovanni, ***Chair:*** Eglė Sakalauskaitė Juodeikienė

10:30 Coffee break

11:00 — British Society for the History of Pharmacy (BSHP) Symposium

Chris Duffin , ***Chair:*** Manon Auffret

12:00-14:00 Lunch break and BU Santé exhibition

14:00 — Electricity & the brain

Elisabetta Sirgiovanni, Mahmoud Hassan, ***Chair:*** Marc Vérin

15:30 Coffee break

16:00 — Neurology in early cinema

Axel Karenberg, Dennis Henkel, Lorenzo Lorusso, ***Chair***: Nick Wade

17:30 18:30 — ISHN Board Meeting

Saturday, July 8

9:00 — Vision & perception

Filip Buyse, Nick Wade, ***Chair:*** Axel Karenberg

10:00 — Controversies in neurology

Stanley Finger, ***Chair***: Peter Koehler

10:30 Coffee break

11:00 — Neurology & Endocrinology

Peter Koehler, ***Chair***: Marc Vérinr

11:30 12:00 — ISHN Annual General Meeting (AGM)

ABSTRACTS

(by order of presentation)

- ***Neurology in Western France***

Chaired by Marc Vérin

Brittany: a forgotten land of neuroscience

Manon Auffret, Rennes, France (PharmD, PhD), France Développement Electronique (FDE), Institut des Neurosciences Cliniques de Rennes (INCR), Behavior and Basal Ganglia Research Unit – CIC1414, CHU de Rennes & University of Rennes, France.

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Today, the neuroscientific work of Rennes-based teams is internationally recognized. Although the establishment of neuroscience in Brittany is generally considered to be relatively recent, dating back to the post-war years, the brain and its pathologies have long been at the heart of Brittany's medical and scientific work. In this presentation, we'll look back at the major milestones in the history of Brittany and Rennes, from the beginnings of psychiatry in the 18th century, to Benjamin Bourdon's laboratory of experimental psychology, and from the military neurological center of the first World War to the rise of neurosurgery and neuro-oncology.

Augustin Morvan (1819-1897), a rural physician and neurologist

Olivier Walusinski, Brou, France Family physician. Private Practice ISHN member
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Augustin Morvan (1819-1897) was a contemporary of Jean-Martin Charcot (1825-1893) who practised medicine in rural Brittany. After a short biography of this perspicacious and astute clinician, my talk will give a depiction of the three clinical pictures that Morvan isolated for the first time, as he gave them, embellished with numerous figures of the time:

- in 1875 the semiology of myxoedema,
- in 1883 the neurological semiology of syringomyelia which he called "*paretic analgesia of the upper extremities"*
- in 1890 the semiology of "*fibrillary chorea*", currently considered a model of synaptic pathology involving immunological damage to potassium channels and causing (as perfectly described by Morvan) myokymia, autonomic nervous system disturbances and agrypnia. "*Fibrillary chorea*" is today known as ***Morvan's syndrome*** and linked to limbic encephalitis.

The hospital in the city of Brest, built between 1937 and 1949, was named Hôpital Augustin Morvan in 1950, in honour of this important clinician. Unfortunately, the name was changed when the facility became a university hospital centre, and now only one of its units bears Morvan's name.

We can read in the *Bulletin de l'Académie de Médecine* on 23 March 1897: "*Although he lived in a remote corner of Brittany, outside of all scientific movements, Dr Morvan distinguished himself by his great appreciation for science and associated his name with several discoveries*". That's why I want to revive the memory of this precursor of neurology.

The trepanned skull of La Palue de Crozon: insights into cranial surgery in Brittany

Manon Auffret, Rennes, France (PharmD, PhD), France Développement Electronique (FDE), Institut des Neurosciences Cliniques de Rennes (INCR), Behavior and Basal Ganglia Research Unit – CIC1414, CHU de Rennes & University of Rennes, France.

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The discovery of trepanned skulls, particularly from the Neolithic period, was not rare on French soil. If some of these skulls were found prior to the 19th century, the majority was retrieved and analyzed following the excitement initiated by Paul Broca's paper "*Cas singulier de trépanation chez les Incas*" (1867). Along with Broca, Ernest Chantre and Paul du Chatellier were some of the most prominent figures in the study of trepanation in France during the 19th century. Together, they described dozens of trepanned skulls found in different areas of France and discussed several theories on trepanation. This presentation will trace the trepanned skulls found on Brittany soil. We will particularly focus on the first skull discovered in Brittany on the beach of *La Palue de Lostmarc'h en Crozon* by the Chevalier de Fréminville in 1843, and analyzed by both Ernest Chantre and Paul du Chatellier. This skull, along with other remains found in Saint-Urnel (Plomeur), Port Banc (Saint-Pierre-Quiberon), Saint-Clément en Quiberon or Kergoniou (Guissény), give an insight into Prehistoric and Medieval cranial surgery in the West of France. Since the 19th century, the study of these ancient skulls has brought together experts from several disciplines (archeology, neurology and anthropology), highlighting the close relationship that has always existed between medicine and humanities.

- ***Memory***

Chaired by Julien Bogousslavsky

Past and present views on déjà vu

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Since we react differently to new, unfamiliar circumstances than to familiar ones, it is very important that we can quickly distinguish between these two situations in everyday life. 'New' and 'familiar' are generally two mutually exclusive phenomena. Yet sometimes a 'déjà vu' ensues when a new event is experienced with a false sense of familiarity.

Most healthy people experience déjà vu at some point in their lives, with no adverse health effects. However, déjà vu can be a manifestation of illness, as in the case of temporal lobe epilepsy and post-traumatic stress disorder.

Given the ephemeral nature of this phenomenon, neuropsychological research is a challenging undertaking. Moreover, this research was initially hampered by ambiguities and inconsistencies in the use of the term, as pointed out by the first researchers in the 19th century

Nevertheless, our understanding of the cause and meaning of this intriguing phenomenon has evolved over time from déjà vu as a misattribution, an illusion, a cognitive or "epistemic" feeling, to the current interpretation of a momentary mnemonic conflict.

- ***Neuropathology***

Chaired by Stanley Finger

Symptoms associated with brain stones found in human autopsies (1450-1850)

Peter J. Koehler, Maastricht, The Netherlands (Faculty of Health, Medicine and Life Sciences, Maastricht University, The Netherlands
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URL: www.neurohistory.nl/

In 1494 Jheronimus Bosch (c. 1450-1516) painted the enigmatic *Extraction of the Stone of Madness*. Art historians and physicians have speculated on its significance. I studied the finding of real brain stones at autopsy and the significance that was attributed. A number of books (1450 – 1850) was consulted for this purpose.

After Mondino de'Luzzi (c. 1275-1326) (re)introduced public autopsies, the first recorded human autopsy occurred around 1315. Brain stones were first described in the mid-sixteenth century and associated with headache. Since then many physicians wrote about brain stones. The formation of stones was related to food, in particular cheese, and drinks, but also considered a divine punishment for sin. During the 17th century brain stones were associated with superfluous humors or localization in the meninges.

After Descartes localized the seat of the soul in the pineapple gland (1649), a discussion arose among supporters and opponents that lasted at least 150 years. The finding of stones in this gland played an important role in the discussion. Symptoms associated with pineal gland stones included behavioral disorders, rather than headache. Infanticide, affective disorders with suicide, gait and cognitive disorders as well as memory defects were mentioned. Only in the late 18th and early 19th century, applying the "numerical method", the finding of pineal calcifications proved to be a frequent coincidental and asymptomatic finding after the age of seventeen. The origin of Bosch's *Stone of Madness* could not related to these findings. Its source has to be looked for in medieval literature.

Arnold Pick and Cerebral Atrophy as a Cause of Aphasia: 150 Years of History

Ardi Roelofs, Nijmegen, The Netherlands (Donders Centre for Cognition, Radboud University, Nijmegen, The Netherlands, Thomas van Aquinostraat 4, 6525 GD Nijmegen, The Netherlands)
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In his epoch-making monograph, Wernicke (1874) claimed that atrophy of the brain cannot cause aphasia. Refuting this claim, Pick (1892, 1898, 1901, 1904) documented in increasing detail several cases of aphasia with circumscribed atrophy of the left temporal lobe, frontal lobe, or both, which persuaded Wernicke (1903). To explain why the atrophy is circumscribed and leads to focal symptoms, Pick (1908) advanced a functional network account, which was soon forgotten. Behavioral, anatomical, and histopathological studies by Fischer (1910), Alzheimer (1911), Altman (1923), Gans (1923), Onari and Spatz (1926), and Stertz (1926) further illuminated the behavioral syndromes, the exact spatial distributions of the atrophy, the underlying disease, and its laminar specificity. Unaware of these seminal

studies, research since the 1970s has rediscovered all key findings, and also supports Pick's (1908) forgotten functional account of the distribution of atrophy and the focal symptoms. Pick's frontal and temporal forms of aphasia foreshadowed what are now called the nonfluent/agrammatic and semantic variants of primary progressive aphasia. Moreover, aphasic symptoms may occur with frontal degeneration (what used to be called "Pick's disease") that yields personality changes and behavioral disturbances, now called the behavioral variant of frontotemporal dementia.

Peter Hennis Green, Lancet and validity of his claim in discovering tuberculous meningitis.

Yuri Zagvazdin and Brandon Kaye, Fort Lauderdale, Florida, USA (Dr. Kiran C. Patel College of Allopathic Medicine, Nova Southeastern University, 3200 South University Drive, Fort Lauderdale, Florida, USA, 33328.)
Email: yuri@nova.edu

Peter Hennis Green (1803-1870), a prominent Irish pediatrician, communicated the discovery of tuberculous meningitis (TM) as a distinct disease in 1836 to *The Lancet*, the journal where he served as an editor. The validity of his claim has been propagated in recent years by some authors. We investigated Green's role in elucidating TM as an affliction initiated by growth of tubercles. In the second part of the 1830's, he visited Paris and apparently acquired a manuscript on TM written by French physician Constant in 1835, who served under the direction of Guersent, the head of the Hospital of Sick Children. Perhaps, Green saw this document and other materials from France as an opportunity to bolster his prestige in British medical community upon his return to London. We found no evidence of Green's awareness that tubercles as causal agents of TM had been already recognized and reported by French physician Papavoine in 1830, and independently by the young American trainee Gerhard and his French colleague Rufz in 1834. The matter of priority in establishing TM as a medical condition became contentious in 1840, when Gerhard protested bitterly against the published statement of Guersent who favored Constant as the pioneer on the subject. Green's motives to usurp credits for himself are unclear. However, in 1842, Thomas Addison and other members of Royal Medical and Chirurgical Society had already dismissed Green's claim. Our study demonstrates the importance of thorough historical analysis and cross-referencing when it comes to assigning priority of medical discoveries.

- ***Psychiatry***

Chaired by Elisabetta Sirgiovanni

History and epistemology of neurosciences in biological psychiatry and epileptology from 1950 : exploratory and clinical perspectives.

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Email : celine.cherici@u-picardie.fr

The beginning of the 21st century is marked by what is commonly called the *Neuroturn.* This concept corresponds to the multiplication of new hybrid disciplines beginning with the prefix "neuro" (neuroeducation, neurolaw, etc.), attesting the extent to which neurosciences have permeated our societies. In addition to these societal representations, neurodisciplines, by focusing their studies on mental, behavioural and cognitive activities, are part of a history of the biologisation of faculties.

On the one hand, this lecture proposes to critically question the techniques used in neurophysiological researches in their normal and pathological dimensions, taking as a ground for epistemological analyses the history of biological psychiatry, notably in the United-States, in the researches of Daniel X. Freedman (1921-1993). In the other hand, in the field of epileptology, we will studi few researches of Henri Gastaut (1915-1995).

Thus, an investigation will be opened on how the biological dimensions of human cognition and behaviour are described in relation to the functional descriptions of the brain in the electrical and chemical paradigms. From pathology to neurodiversity, a way of understanding and exploring the brain is emerging from the second half of the 20th century in a technical developments of cerebrocentrism. Electrical and chemical models complemented each other in order to model normal and pathological activities, whose boundaries became permeable. Thought, consciousness and intelligence, plural and biological concepts, are constantly being redefined.

The Denber Study

João Tavares, Lisbon, Portugal (Unidade de alcoologia de Lisboa, and Universidade Nova de Lisboa. Pavilhão 41, parque de saúde de Lisboa, Av do Brasil, 53-A 1749-006, Lisbon, Portugal)
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In 1959, a clinical trial in the Manhattan State Hospital changed psychiatry, driving a wedge between western european practices and those from anglo-saxon countries.

Herman Denber is sometimes described as an emissary between Europe and the United States, as european psychiatric elites had problems penetrating english-speaking psychiatric culture, but his 1959's clinical trial broke rank with what was being experienced in Europe. The Denber study described haloperidol as having severe side effects and very little therapeutic effectiveness. Consequences for these surprising results ranged from delayed butyrophenone penetration in the american market with real impact in clinical practice during the sixties, to maybe also differences in neurobiological theory construction across the atlantic.

In our presentation we wish to revisit the conditions present in haloperidol's first american clinical trial, trying to find answers to the discrepancy between its published results and European trials. Larger questions about methodology in clinical trials may linger, suggesting that psychiatric effectiveness may be conditioned by time and place considerations.

Societal Influences on Psychosurgery: Values Guiding its Adoption, Demise, and Return

Chris Zajner, University of Western Ontario, London, Canada
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For an extended period of time in the late 19th to mid-20th centuries the roles of neurosurgery and psychiatry overlapped. The development and growing popularity of the localization hypothesis of brain function in the late 19th century inexorably led to speculations on the potential of ablating or disrupting brain regions associated with psychological dysfunction. The practice consistently provoked extreme controversy and push-back, with an insufficiency of evidence to support its blunt and irreversible nature. The fervor with which the practices of 'leukotomy' (i.e. white matter ablation) were adopted, often failed to recognize the limitations in their scientific methods, and disregarded of the prevailing opinions in the psychiatric and neurosurgical communities. These realities reveal a lack of investment in multidisciplinary patient care in this time period.

Although the story of psychosurgery was relatively short, it is gravid with historical lessons, of the complex process by which clinically relevant medical progress is made. The widespread adoption of the scientifically dubious procedures of lobotomy and leukotomy in the mid-20th century, is contemporaneously touted as a story exemplifying the unremitting harm physicians can inflict on patients. But this story may more accurately – if not more helpfully – enlighten us about the historical, cultural, scientific, and social reality in which clinical treatments arise, and must ultimately respect, if they are to 'become' and remain relevant.

In this presentation I hope to elucidate the societal pressures which allowed the extensive adoption of leukotmoy/lobotomy in the 20th century. With recent advances in deep brain stimulation, and the possibility to surgically treat specific psychiatric illnesses, current medicine is faced with similar questions that physicians did in the mid 20th century. The manner in which societal values have a fundamental role in determining which therapeutics are deemed valid in therapeutic scenarios is thus not only an issue of the past, but of today.

- ***Neurology in Canada***

Chaired by Lorenzo Lorusso

The Creation of the Medical Research Council of Canada – An Opportunity for Career Consolidation and Research Success among German-Speaking Émigré Neuroscientists and Psychiatrists, 1938–1968

Dr. Frank W. Stahnisch, Calgary, Canada (AMF/Hannah Professorship in the History of Medicine & Health Care, Full Professor, Departments of Community Health Sciences & History, Chair, History of Medicine and Health Care Program, Coordinator (History) History and Philosophy of Science Program, Member of the Hotchkiss Brain Institute & O'Brien Institute for Public Health, TRW Building, Room 3E41, 3280 Hospital Drive NW, Calgary, AB, Canada T2N 4Z6, Co-editor-in-chief: Journal of the History of the Neurosciences, (JHN: http://www.tandfonline.com/toc/njhn20/current)
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URL: https://www.hom.ucalgary.ca/
Recent book: https://www.mqup.ca/stahnisch--frank-contributor-110707.php

In line with the Rockefeller Foundation (1913) and National Research Council (1916) in the US, the National Research Council of Canada (NRC) sought to overcome traditional paradigms that supported research in specific departmental structures. Based on recommendations from the NRC's advisory committee, which included the physiologist Frederick Banting (1891–1941) and the neurosurgeon Wilder Penfield (1891–1976), available funding for biomedical research was administered through its Associate Committee on Medical Research until 1946, when it became succeeded by a Division of Medical Research. Eventually, in 1961, the Medical Research Council (MRC) came to full fruition at the advice of the Deans of all Canadian Medical Schools; and through their training and fellowship programs the NRC Division and the MRC, respectively, sustained biomedical research during the prolonged postwar period.

For German-speaking émigré neuroscientists, who had lost their academic positions after 1933 when the Nazis seized power in Germany, the national funding agencies provided substantial resource opportunities for maintaining their research successes and continuing their interrupted careers. This paper examines several cases from the prominent group of German-speaking brain researchers in Canada that were funded within the MRC context. The group made up 15% of all successful

neuroscience applicants, including Rudolf Altschul (1901–1963), Hans Selye (1907–1982), and Karl Stern (1906–1975). The paper draws on material from the Archives of the University of Saskatchewan (Saskatoon), the Penfield Archives and the McGill University Archives (Montreal) in Canada, along with correspondence from the National Institutes of Health (Bethesda, MD) in the US.

- ***The history of amnesia***

Chaired by Olivier Walusinski

The history of hippocampus: three centuries of terminological discussions

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As a part of the limbic system, hippocampus, today defined as two allocortex laminae, cornu ammonis (hippocampus proper) and gyrus dentatus, one rolled up inside the other, plays a crucial role in memory. Its slow discovery across the centuries led to various terminologies linked to zoology and mythology. Some of them are discussed. **Seahorse or silkworm?** The first denomination of hippocampus (from the Greek horse and seamonster) is credited to the Italian anatomist Julius Caesar Arantius (ca 1530-1589) around 1570. Hippocampus refers to the small marine fish called seahorse and also to a mythological creature that pulled Poseidon's carriage. Arantius compared the whole structure, or maybe only the gyrus dentatus, to a seahorse or to a silkworm. As demonstrated later in the anatomical works by Félix Vicq d'Azyr (1748-1794) and Gustaf Retzius (1842-1919), displaying the seahorse appearance of the hippocampus needs to use a method of dissection starting from the ventral surface of the brain. Johannes Georg Duvernoy (1691-1759), who probably provided the first accurate illustration of the hippocampus in 1729, also hesitated between the terms seahorse and silkworm. Jean Cruveilhier (1791-1874) still suggested the comparison to a silkworm but only the term hippocampus has endured until the present days. **Ram's horn or Ammon's horn?** In the first half of the XVIIIth century, Jacques Bénigne Winslow (1669-1760) compared the hippocampus to a ram's horn. The French anatomists of the Enlightenment René-Jacques Croissant de Garangeot (1688-1759) and Claude Flurant (1721-1779) introduced the term Ammon's horn (cornu ammonis). The metaphor Ammon's horn refers to the ram-shaped horns on the head representing the Egyptian god Amon. **Hippocampus or Hippopotamus?** The German anatomist Johann Christoph Andreas Mayer (1747-1801) miscalled this structure hippopotamus in 1779 inducing confusion in anatomical terminologies during many years. ***Calcar avis* or Hippocampus minor?** The calcar avis (bird spur) of the occipital horn of the lateral ventricle, initially described by Sauveur-François Morand (1697-1773), was renamed the hippocampus minor by Félix Vicq d'Azyr in 1786. This term was subject to ridicule when it became the centre of the debate called the Great hippocampus question. The term was removed of the classifications at the end of the XIXth century. **Hippocampus or hippocampal formation?** These discussions finally led to a larger definition of this anatomic region including other structures such as the subiculum or the gyrus of Andreas Retzius (1796-1860).

History of Amnesia

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Forgetfulness and memory loss have generated interest dating back to antiquity. However, memory loss was first classified as a medical malady by Sauvages (1763), whose taxonomy included

"amnesia". Weakening or dissolution of memory characterizing amnesia was attributed to factors including brain disorders of stroke, hemorrhage, and traumatic head injury, excesses, strong emotions, and intoxication. Amnesia was noted as a distinct primary condition, or as secondary, accompanying certain serious medical conditions. Medical dictionaries and encyclopedias provided recognition of amnesia as an independent disorder of memory, distinguishable from disorders of global intellect or language.

Concepts developed in the 19th century captured descriptive, diagnostic, and prognostic aspects of memory difficulties. Retrograde (forgetting knowledge preceding onset) and anterograde (difficulty learning or recalling new information) features, pathogenesis, duration, course, and severity remain essential current parameters of amnesia. Conditions primarily characterized by amnesia are described. Korsakoff's syndrome vividly depicted a profound alcoholic amnesia. Functional (psychogenic) amnesia permitted neuropsychiatric differential diagnosis and study of dissociation and subconscious recall.

Certainly, a most compelling case of amnesia is that of H.M., who, after bilateral medial temporal lobe resection in 1953, displayed lifelong severe anterograde amnesia notable for ongoing, recent events. Early memory retention, without general intellectual or perceptual compromise, was reported. Skill-based sparing and implicit learning was later suggested. His amnesia described as "unforgettable", HM's heartrending legacy furthers appreciation of neuropsychological functions of learning and memory, serving as a poignant reminder of profound effects of amnesia on everyday life. Amnesia endures as an evocatively challenging clinical phenomenon in neuroscience.

Proust's way: From medicine to memory

Julien Bogousslavsky, Montreux, Switzerland. (Neurocenter, Swiss Medical Network, clinique Valmont, Glion/Montreux, Switzerland)
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Swann's way and all subsequent volumes of In search of lost time, Marcel Proust's masterpiece, is commonly considered as the great "memory novel" of modern times, which is symbolized by the famous reminiscence episode linked to tasting a little madeleine cookie. Indeed, we found over 1200 citations on memory in the 3000 pages of the book! In our presentation, we will focus on how the author developed his various and sophisticated concepts of voluntary and involuntary memory, largely on the basis of a solid medical knowledge. Proust's father was a famous physician, who had shortly worked with Charcot, and because of his own medical condition, Proust met many physicians involved in "nervous disease". This allowed Proust's biographer Jean-Yves Tadié to state that Proust seemed to know all neurologists in Europe! This included celebrities, such as Édouard Brissaud, Joseph Babinski, Jules Dejerine, and mainly Paul Sollier, who had written several works on memory.

Proust indeed underwent a cure in Sollier's institution, and it appears that his ideas on the mechanism of involuntary surges of memories largely originated from this stay. Proust subsequently elaborated concepts of voluntary memory, affective memory, creative vs. destructive memory, the mutually contradictory aspects of memories, as well as the active process of forgetting.

- ***Poster session***

Chaired by Manon Auffret

The downfall of the Spanish Habsburgian kings (1527-1700). The cause revisited. An Hypothesis

J.Cootjans, Mechelen, Belgium (J.M.Debois, MD. Radiotherapy-Oncology, retired, J.Cootjans, MD., neuropsychiatry, J.DeRoover, MD, neurology
Email: jeanmarie.debois@jedi.be / jan.cootjans@cggdepont.be /jan.deroover@azjanportaels.be

We studied the relationship between the consanguineous marriages in the ascendants of the Spanisch Habsburg kings and their subsequent neurodegeneration and downfall.

The 'madness' of Juan La Locca differed from the symptoms presented by the later kings, culminating in imbecilitas. She remained well aware of the actions of her father and her son about the kingdom of Castille.In 1550 emperor Charles V decided to abdicate. He divided his reign: the eastern part went to his brother Ferdinand; the western part to his son Philip ll. The Austrian dynasty continued without problems in performing the royal duties. The Spanish dynasty developed along the next four generations a progressive worsening in functioning. The downfall could be attributed to consanguineous marriages causing a hereditary pathology with simultaneous childhood-mortality, facio-morphological and psychiatric problems.

Founders : The establishment of British Neurosurgical Units 1935 - 1972

Jonathan R Pollock, Romford, Essex, UK (Consultant Neurosurgeon, Essex Neurosciences Centre, Queens Hospital , Romford , Essex, UK, RM7 0AG)
Email: jonathanpollock@nhs.net

Summary

The birth of the speciality of neurological surgery in British hospitals from 1886 onwards is well described, especially the 19th century work of Sir William Macewen and Sir Victor Horsley, and the later contribution of a small group of ‘pure’ neurosurgeons Hugh Cairns, Geoffrey Jefferson, Norman Dott and Adams McConnell

Less well recorded is the subsequent expansion in British neurosurgical units which took place from 1935 , especially following the delivery of civilian and military Neurosurgical care during the Second World War organized by Jefferson and Cairns.

This paper provides a comprehensive record of the 41 British unit founders whose work resulted in the large network of Neurosurgery units we recognise today . These founding surgeons were tasked with establishing units with very limited resources and often from scratch . They were influenced by a combination of UK training , wartime surgical experience and by the North American neurosurgical school of Harvey Cushing and his successors . They made many key contributions to the neurosurgical literature

Method

A historical account utilising biographical material, unit and national archives, neurosurgical literature and interviews . The influences, contributions, surgical practice and publications of this extraordinary group of surgeons are described ; 6 of them are studied in detail. This article acknowledges the debt owed to this group by the 33 British units extant today , and their patients.

- ***Neurology in Lithuania***

Chaired by Frank Stahnisch

Strong drug for a fatal disease: "heroic" medicine in the first half of the 19th-century Vilnius

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Repetitive bloodletting, promoting profuse diarrhea and vomiting, formation of artificial ulcers, using skin blistering therapies and other aggressive antiphlogistic treatment methods were based on the concepts of humoral theory, and are also named "heroic" medicine, or heroic depletion therapy. It was used in Vilnius, as well as in other European cities until the end of the 19th century. In this study, I analysed doctoral dissertations on the subject of nervous system (NS) diseases, as well as clinical reports recorded during the period of 1806 to 1842 in Vilnius university Therapy, Surgery and Obstetrics clinics. Bloodletting, the use of purgatives, leeches, cupping therapy were frequently employed as treatment options for patients with NS diseases. Calomel (mercury chloride) was used as a purgative and anti–inflammatory drug. The use of *acidum borussicum* (hydrocyanic acid) for a patient with hydrophobia is an example of a desperate, "heroic" medicine while treating a fatal illness with the "strongest" drug, described in the scientific literature of the time. However, the purpose of my work - not to judge or criticize historical treatment methods, but to try to show what methods were used in the first half of the 19th century in Lithuanian region, and on what scientific theories of the time they were based. We should not rule out the assumption that some aggressive treatment methods, used nowadays (although they prolong a patient's life for several weeks or even months), may seem to be exceptional examples of 21st-century "heroic" medicine for the future generations.

Maksymilian Rose and the activities of the Brain research institute in Vilnius in 1931-1937

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In 1928, the Polish Institute for Brain Research was established in Warsaw by the Polish Society for the Promotion of Brain Research. The aim of the Society was to support scientific research of the

brain, in particular research on the structure of the human cerebrum and its functions, the causes of some nervous and mental diseases as well as methods to prevent and treat them. In 1931, the Institute was moved to Vilnius. The director of the institute was Maksymilian Rose (1883–1937), a distinguished Polish neurologist, Professor of Neurology at the Faculty of Medicine, Vilnius Stephen Bathory University.

The Institute was well known in Europe at the time, because of the research of outstanding social activists' brains. One of the most known Rose's research was examination of Józef Piłsudski's (1867-1935) cerebrum. Józef Piłsudski, who was the Prime minister of Poland, died on May 12, 1935 in Warsaw. By following Piłsudski's last will, his brain was moved to Vilnius and examined in Vilnius Brain research institute. In 1938, the results of this investigation were announced. Unfortunately, the author of this study, Maksymilian Rose, was no longer among the living. In 1939, the work of the Institute was interrupted by the World War II. Józef Piłsuski's brain, as well as other preparations of the Institute, were moved from Vilnius. In this paper we will evaluate the most important scientific achievements of the Institute and analyze the primary and secondary sources that have been obscure for more than 80 years.

- ***Invited speaker : Prof. Yves Agid***

Chaired by Manon Auffret & Marc Vérin

- ***Neurology & Munch***

Chaired by Eglė Sakalauskaitė Juodeikienė

The Electrified Artist: Edvard Munch, Mental Health, and Non-Convulsive Electrotherapy

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Norwegian artist Edvard Munch (1893-1944), best remembered for *The Scream* (1893), spent eight months in a private psychiatric facility in Frederiksberg, Copenhagen, in 1908-09. He was suffering from alcohol and drug abuse, and his signs and symptoms included auditory hallucinations, persecutory delusions, paralyses, violent mood swings, depression, loss of control, fatigue, and an inability to take care of himself. Danish neuropsychiatrist Daniel Jacobson's (1861-1939) treatments seemed largely based on American Silas Weir Mitchell's (1829-1914) popular "rest cure." Munch was given ample rest, a fortifying diet, baths, massages, fresh air, limited exercise, and mild electrotherapy. Dr. Jacobson also encouraged his famous patient to paint and sketch. In this presentation, we shall examine a drawing Munch made of one of his electrotherapy sessions, what he wrote on it, and why his physician was placing a large electrode on his forehead. Mention will be made of the use of electrotherapies prior to (and in comparison with) later electroconvulsive therapies, as well as some of the things that might have influenced Jacobson to employ electricity with Munch. With this background, we hope to provide a more complete picture of Munch's diagnoses and treatments, which marked a turning point in his life and art.

- ***British Society for the History of Pharmacy (BSHP)***

Chaired by Manon Auffret

Anti-epileptic gems and amulets

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The loss of motor control during epileptic seizures has lead to the disease being called the Falling Sickness. Anti-epileptic amulets and charms are known from at least the 3rd century BCE; a gold sheet includes a personal incantation seeking protection 'from every evil spirit and from every epileptic fit and seizure'.

Amulets include *Ungula alcis*, the 'Nail of the Great Beast' or Elk Claw. The Elk supposedly suffered continuously from epilepsy which it cured by touching its right hoof against its left ear. The limb was rendered into powder for treatment purposes and worn as an amulet. Asses' hoof was an acceptable alternative and often fashioned into anti-epileptic rings.

A gold pendant found in 1985 near Middleham Castle was probably made between 1450 and 1475. The Latin inscription around the border reads '*Ecce Agnus Dei qui tollis peccata mundi ... miserere nobis ... tetragramaton ... Ananyzapta*'. The final word, 'Ananyzapta' was commonly used to protect the wearer from epilepsy. The pendant is a reliquary which originally contained a piece of holy cloth. Ananyzapta was also inscribed onto a variety of rings. The names of the Magi – Melchior, Balthazar and Caspar – were also seen as having special anti-epileptic power and were commonly written on charms, talismans and items of jewelry.

Emerald was believed to have special powers against the disease and was often worn in amuletic jewellery. Hildegard von Bingen commended putting an emerald in the mouth of a sufferer to mitigate fitting.

Austro-Bavarian folklore approaches to Epilepsy

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The Austro-Bavarian region during the 17th to 19th centuries was teeming with prophylactic and therapeutic approaches to the complex condition known locally as *Frais*; epilepsy was prominent among the conditions which this term embraced. Amuletic items of naturalia whose roots lay in secular folklore included *Schreckstein* (mounted materials, mostly mineral, credited with protection against 'Maternal impression'), *Fraisperlen* (paeony seeds), *Frais-knochen* (isolated temporal bones from the skulls of pigs), *Krampfkäfer* (Stag beetle heads), *Fraisenpulver* (powdered stomach of the Capercaillie), *Fraiskräntl* (probably Ironwort, used to produce 'Mountain Tea'), *Fraisbeter* (or *Heckwurmperlen*,

adder vertebrae), *Fraisenuhr* (special clock which is wound up during a seizure), and *Fraisengarn* (yarn spun by a girl under 7 years of age).

The region is steeped in post-counter-reformation Catholic traditions including an enthusiastic approach to pilgrimage. Items of associated religious folklore employed against *Frais* include a wide range of saints' medallions and tertiary reliquaries (especially those associated with epilepsy), *Fraisschlüssel* (usually 'Mercy Keys' from Rein Abbey), *Frais-haubchen* (special caps, printed with ecclesiastical images), *Lorettohemdchen* or *Froasenpfoadln* (miniature shirts from the Loretto Monastery in Salzburg), *Fraisensteine* (baked clay tablets from Sonntagberg and Maria Taferl), flasks of *Walpurgisöl*, and *Fraisbrief* (printed prayers, often folded into padded hangers or hung on the wall ready for recitation).

Many items were strung together on *Fraisketten* – polyamuletic chains hung around the neck or over the bedstead to protect the pragnant mother against any frights which could communicate epilepsy to the baby, and as prophylactics for the newborn child.

- ***Electricity & the brain***

Chaired by Marc Vérin

A brief history of Electroencephalography

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Electroencephalography (EEG) is a non-invasive technique used to measure electrical activity in the brain. It has a long history dating back to the early 20th century, when researchers first discovered that the brain produces electrical signals that can be measured on the scalp. Since then, EEG has been used in a wide range of applications, including neuroscience research, clinical diagnosis, and brain-computer interfaces [1]. The early history of EEG is marked by several key discoveries, including the discovery of alpha waves by Hans Berger in 1929, and the development of the first EEG machine by Edgar Adrian and B.H.C. Matthews in 1934. In the decades that followed, EEG technology improved, and researchers began to use it to study a wide range of brain disorders, including epilepsy, sleep disorders, and brain injury.

In recent years, advances in technology have led to new and exciting applications of EEG. Researchers are now using EEG to study brain function in patients with disorders such as Alzheimer's and Parkinson's disease, as well as to develop brain-computer interfaces that may allow people with paralysis to control computers and other devices with their thoughts.

With its excellent time resolution, its easiness of use and its noninvasiveness, in combination with advances in data analysis, EEG is currently considered as a key neuroimaging technique, in cognitive and clinical neuroscience. In this talk, in addition to the brief history of the EEG, I will also focus on the new technologies permitting going from scalp EEG signals to track dynamics of brain networks with high spatiotemporal resolutions, in health and disease [2].

Investigating the "Electro" and the "Shock" behind the Cerletti-Bini ECT Apparatus Prototype

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The term "electroshock", identifying the electroconvulsive device used to treat psychiatric dysfunctions, spread starting from October 15, 1938. Electroshock was the name given to the industrial version of the apparatus prototype (originally called "*Apparecchio per le applicazioni elettriche"*), assembled and tested by Ugo Cerletti and his assistant Lucio Bini in Rome six months prior to that date. The Cerletti-Bini electroconvulsive therapy (ECT) apparatus was the result of combining two medical traditions. Firstly, ECT followed a recent tradition on seizure inductions (i.e., "shocks") on mental patients via inoculations, a series of therapies that were becoming popular in the early 1930s (e.g., malaria therapy, insulin coma therapy, cardiazol/metrazol therapy). Secondly, ECT was related to studies from the late eighteenth century applying electrical current to the skull so to provoke epileptic-like convulsions. By intersecting bibliographical and archival material, my goal is to reconstruct the sources that led Ugo Cerletti and his team to the administration of electricity as a convulsive means on human patients. This procedure, which had been experimented by physiologists mainly on animals for various purposes, turned out to be a less risky solution than pharmacological inoculations in order to reproduce the effects theorized by Ladislas Meduna's with his hypothesis of an antagonism between epilepsy/schizophrenia.

- ***Neurology in Early Cinema***

Chaired by Nick Wade

Around 1900, neurology was a medical field in the making. But how did neurologists and neurological patients present themselves through the lens of early filmmakers? Three talks including the presentation of unknown movie scenes try to answer this question.

Curing by cinematography – a successful "technical" psychotherapy by an early neurologist

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Léon Perret's 1913 masterpiece "The Mystery of the Cador Cliffs" takes us to Brittany. In this fiction film, a young woman who has fallen into an akinetic-amnesic state is cured by a cinematographic intervention.

Between superstition and science – neurology in silent fiction films

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Did the progress of neurology correspond to its representation in mass-media? This talk provides the first systematic overview. Main questions are: Was the subject being distorted? Are symptoms such as seizures misinterpreted or are the directors' approaches conforming to scientific standards?

The pioneers of neurological cinema

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To a certain extent, the development of cinematography is due to the study of movement. Neurologists, especially in Europe, were the pioneers to apply the new method in clinical practice. The cinematograph, initially a curiosity, thus became a diagnostic tool in other medical disciplines as well.

Conclusion: A close-up of the silent film era reveals the significance the new medium had for neurology as well as for cinema right from the beginning. Motion pictures as means of documentation, feature films as projection screens to negotiate the image of a medical discipline – both truly secular trends.

- ***Vision & perception***

Chaired by Axel Karenberg

How Spinoza inspired J. Müller in his Innovative Ideas on Hallucinations

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In the first half of the 19th century, our views on hallucinations changed fundamentally from an ancient notion of apparition into the current concept of "hallucination", meaning: "the generic name for a class of utterances reporting subjective experiences (putatively) perceptual in nature which occur in the (arguably) absence of an adequate external stimulus". In this transformation, an early work of Johannes Peter Müller (1801-1858), *Uber die phantastischen Gesichtserscheinungen* (On Fantasy Images) (1826), played the role of a catalyst. (Berrios, 2005)
Interestingly, in his explanation of hallucinations, Müller refers several times to Spinoza's work, in his early as well as in his influential *magnum opus* entitled *Handbuch der Physiologie des Menchen (1837-1840).* So, the question arises where, when and why precisely the German physiologist refers to the Dutch philosopher. Remarkably, this link has not yet been investigated systematically in secondary literature even though there is much interest in Spinoza's philosophy among contemporary biologists such as Antonio Damasio, Henri Atlan and Jean Pierre Changeux who argue that Spinoza (1632-1677) anticipated modern biological thinking[1]. Likewise, Spinoza's name is completely absent in several important biographies of Johannes Peter Müller[2].

This paper claims that Spinoza inspired "the father of contemporary physiology" and it demonstrates that there are not only historical but also ontological and methodological reasons which played a role.

The hostile reception of Wheatstone's interpretation of stereoscopic depth perception

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The long observational history of binocular vision has been dominated by the appearance of a single world with two eyes and its breakdown when the eyes are distorted abnormally. At the beginning of the nineteenth century the flat horopter of Aguilonius (proposed two centuries earlier) assumed curvature in the form of the ViethMüller circle which was linked to identical retinal points. Thus, there were only two possible states of binocular perception – single vision when objects fall on the circumference of the ViethMüller circle and double vision otherwise, with singleness served by a fixed organic relation between nerve fibres. It is this elegant edifice that was challenged by Wheatstone's observations of stereoscopic depth perception announced in 1838; he also advanced a cognitive theory of binocular vision that attacked physiological interpretations. First, in 1841 Brücke mounted a defence of Müller's doctrine by offering an alternative interpretation in terms of the integration over time of a rapid sequence of convergence eye movements. The theory could not be sustained because of evidence that stereoscopic depth occurred without eye movements. Brewster made a similar case for changes in convergence in 1844. More subtle defences of Müller's doctrine were later presented by Panum, Volkmann and Nagel. Helmholtz was the lone but powerful voice in defence of Wheatstone whose theory he essentially adopted: stereoscopic vision was a psychological phenomenon and it was learned. The rivalling interpretations of Wheatstone and Brewster were mirrored in those of Helmholtz and Hering.

- ***Controversies in neurology***

Chaired by Peter Koehler

Phrenology's Attempt to be a Science: Geometry and Measurements Rather than Bumps?

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Franz Joseph Gall, who introduced what others would call "phrenology" during the 1790s, relied on seeing and feeling skulls when he formulated his theory. So did Johann Spurzheim, who served as his assistant until 1813 and then set forth to improve and popularize the doctrine on his own. Others, however, criticized their methods as too subjective and hence, unscientific. Among others, Peter Mark Roget, a leading British critic of the doctrine, began to assail this subjectivity in 1818, and never changed his mind. During the 1820s,

George Combe responded to these criticisms by recommending calipers, introducing measuring instruments, and drawing lines between points to demarcate organ groups, hoping to show that phrenology could be based on numbers and geometry, as befitting a true science. In the United States, the Fowlers went farther, measuring the distances between the cranial regions associated with their 37 organs of mind. Nonetheless, they and Combe realized they faced formidable barriers when it came to measuring the physical organs of mind, as opposed to overall skull dimensions.

In this presentation, we shall review the subjectivity that left phrenology open to criticism and show how some leading phrenologists tried to overcome it and the charge that phrenology is just another pseudoscience. The point will be made that, despite these efforts, the vision and touch would continue to be signature features of phrenological examinations through the numbers-obsessed nineteenth century.

- ***Neurology & endocrinology***

Chaired by Marc Vérin

Inducing neurological signs by hypoglycemia. Insulin coma treatment on film?

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Nearly every neurologist will have experienced the satisfaction of diagnosing hypoglycemia with neurological signs, curing the patient "on the needle" by giving glucose. Few will have done so to treat hypoglycemia induced on purpose. And yet, this was practiced in the 1920s and 1930s, when hypoglycemia was applied to treat psychotic patients (ICT or insulin coma therapy). The story of Austrian-Jewish Manfred Sakel (1900-1957), who was working with Kurt Mendel (1874-1946) in Berlin and used low dosages of insulin in patients suffering from morphine withdrawal, is well known. In some patients he had induced disorders of consciousness unintentionally and found that the desire for morphine and restlessness disappeared. The idea occurred that insulin coma might be effective for severe psychiatric disorders. After returning to Vienna, Sakel started experimenting with schizophrenic patients. The effects seemed to be quite impressive. However, it was difficult to predict the patients' reaction from the dosage of insulin. Following a series of papers in Wiener medizinische Wochenschrift, Sakel published a book in 1935: Neue Behandlungsmethode der Schizophrenie.

I will show a film, in which various phases of ICT can be observed, including restlessness, coma, Babinski signs, myoclonus, and seizures. The hypoglycemia was stopped by sucrose solution via gastric tube. If this did not result in improvement soon enough or in case of a seizure, intravenous glucose was applied. After the treatment the patients received a carbohydrate-rich meal.

The safer ECT was applied for the first time in 1938 and would later take over the chemical methods.

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