

## The History Corner @FENS Forum 2016

### *Abstracts of posters*

#### 1. The History of Neuroscience in Scandinavia

##### **A Neuropathological Report Anno 1669 by Nicolaus Steno**

Kardel T. (University of Copenhagen)

Niels Stensen, or Nicolaus Steno, is known for his Discourse on the Anatomy of the Brain delivered in Paris 1665 with a critique of speculative theories on the brain's function by René Descartes and Thomas Willis. Steno provides a new program for research to obtain certain knowledge on brain function.

His second contribution in neuroscience is a Letter on a Calf with Hydrocephalus studied in 1669 in Innsbruck. The letter was published in Copenhagen. Its format is strikingly similar to a case report in our time.

In the introduction the author asks if an image that is firmly imprinted in the brain of the mother, in this case a cow!, can alter the course of the process which delineates the parts of the foetus and thereby give foetal malformations.

The case report mentions the condition of the calf and the autopsy with sketches of the malformations of the brain.

In the discussion and six conclusions Steno tells that a cyst [possibly a crano-pharyngioma] obstructed the outlets of water from the inner cavities of the brain (Monro's foramina described in 1783) causing the lateral parts of the brain and the skull to yield to the pressure of water.

The author declares that only by autopsy he could demonstrate that a disease in the foetus itself was the cause of deformities that would otherwise be attributed to the imagination of the mother.

##### **How Neurophysiology Became Neuroscience in Scandinavia - Role of Functional Neuroimaging by Scandinavian Students of Brain Circulation**

Gjedde A. (University of Copenhagen)

The term neuroscience was invented by Francis O. Schmitt of the MIT at the launch in 1962 of the Neurosciences Research Program and its publications. Schmitt wanted to do for the brain what the discovery of DNA did for the body. In Scandinavia, the term was commandeered by vascular physiologists who claimed that they could understand the brain and its functions by mapping changes of blood flow. The most prominent usurpers of neuroscience were the clinical neurophysiologists Niels A. Lassen (1926–1997) and David H. Ingvar (1924–2000) from Copenhagen and Lund, respectively. At the Eighth International CBF Symposium held in Copenhagen in June 1977, Lassen and Ingvar were the undisputed stars of cerebral blood flow mapping in humans. The previous meetings had focused on technical aspects and clinical applications, but now the focus turned towards the functional organization of the human brain by evaluating and interpreting regional changes of blood flow in terms of how the brain works. Upon Lassen's return from the NIH in 1951, and Ingvar's return from the Montreal Neurological Institute in 1953, the co-workers devised the bolus injection method for which they instantly became famous. With this method, they obtained the first color-coded maps of activation of

discrete functional centers of the intact and resting or working human brain, and the images in turn formed the basis for the following 30 years of functional mapping of the human brain. Ominously, the cover of the 1977 volume of abstracts featured the outline of a phrenology bust.

## **2. History Online Projects**

All History Online Projects funded by the FENS History of Neuroscience Committee can be found on [www.fens.org/Outreach/History/History-Online-Projects/Online-projects1/](http://www.fens.org/Outreach/History/History-Online-Projects/Online-projects1/)

### **Angelo Mosso's first steps in physiology**

Pareti G. (University of Turin. dept. Filosofia e Scienze dell'educazione)

This poster aims to illustrate the period of apprenticeship in physiology spent by Mosso in Florence (1871-72) at the Institute of Moritz Schiff and in Leipzig (1874-75) at the laboratory established by Carl Ludwig in 1865. In those years Mosso published work on the cardiac nerves, on the movement of the esophagus, blood vessels, vision and collaborated with Ludwig to the construction of the plethysmograph. It was a very instructive period for his formation and later he introduced in Turin methods and principles learned in those two schools inspired by the German scientific methodology.

### **Charles Darwin's works and early European neuroscience**

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« Nothing in biology makes sense except in the light of evolution »: this sentence from famous scientist Theodosius Dobzhansky (1900-1975) illustrates the primordial place of Darwinism in current biological science, including neuroscience. Actually, recent years have seen a comeback of Darwinian thinking in neuroscience, through the fields of evolutionary psychology and affective neuroscience. Charles Darwin (1809-1882) himself had a great interest for the « mental science » of his time, and worked in connection with British pioneers of neurophysiology and neuropsychiatry for his outstanding books *The descent of man, and selection in relation to sex* (1871) and *The expression of the emotions in man and animals* (1872). We will propose a poster presentation covering the history of Darwinism and development of neuroscience in Europe: 1) Charles Darwin's inspiration and collaboration with neurophysiologists and neuropsychiatrists; 2) the use and misuse of Darwinism of Darwinism in early European neuroscience (from degeneracy to eugenics) and 3) the Darwinian revival through founders of modern psychopathology and the way to current evolutionary psychology and affective neuroscience.

### **Greece: The Cornerstone of Neuroscience**

Tsiara J.

Greek physicians constitute a milestone in the evolution of neuroscience. They laid the foundation in which modern medicine is based on. Especially in ancient times, Hippocrates (460-377 BCE) from Cos was the first physician who observed the lateralization of brain function and considered the brain as the seat of intelligence. Afterwards, in the Alexandrian Era Herophilus (335-280 BCE) from Chalcedon, the "Father of Anatomy", established the importance of sensory and motor function of nerves of the human brain. In ancient Rome, the most renowned neuroscientist was Galen (130-210 AD) from Pergamos. He believed that the brain was the primary organ in the body, which controls all of our vital activities. His influence dominated until the 17th century. In which way each one of them contributed further to the development of neuroscience will be the final part of the project!

## **Hebb and Cattell: The genesis of the concepts of fluid and crystallized intelligence**

Brown R. E. (Dalhousie University)

Donald Hebb was a Lecturer in Psychology at Queen's University in 1939, and, based on research on brain-damaged patients that he had done at the Montreal Neurological Institute with Wilder Penfield, he wrote a critique of the concept of "Intelligence". He stated that: "Intellectual development involves (A) the development of direct intellectual power, by neural maturation, and (B) the establishment of routine modes of response to common problems, or of perceptual and conceptual modifications leading to qualitative modifications of behaviour." (Hebb, 1942, Proc. Amer. Phil. Soc. 85, page 289). He called these Intelligence A and Intelligence B. Hebb (1941, Psych. Bull, 38, p. 593.) presented these ideas at the APA meeting in Evanston, Illinois, in a symposium which included Raymond B. Cattell, a professor at Harvard University. Two weeks after the symposium, Cattell sent Hebb a letter and a manuscript, which contained a description of Hebb's ideas on Intelligence A and Intelligence B, but these were now termed "crystallized" and "fluid" intelligence. Hebb and Cattell exchanged many letters about this, as did their heads of department, George Humphrey (Queen's) and Edwin Boring (Harvard), before Cattell's paper was rewritten in such a way that everyone was satisfied. This talk examines the ideas of Hebb and Cattell on intelligence, the importance of these letters in understanding the development of the ideas of fluid and crystallized intelligence, and how the following sentence came about: "Hebb has independently stated very clearly what constitutes two thirds of the present theory" (Cattell, 1943, Psych. Bull. 40, page 179).

## **Rediscovering hibernation - research of the Belgrade School of Physiology**

Andjus P. R. & Korenić A. (University of Belgrade Faculty of Biology)

This project aims to elucidate and bring to a wider research community the work of the Sorbonne graduate, French-born Serbian scientist, Professor Jean Giaja (Ivan Djaja). Prof. Giaja was an excellent physiologist and experimenter and his research on hibernation and hypothermia published mainly in the 1950s in esteemed journals still needs to be rediscovered for its particular significance to modern brain physiology, cardiology and low-temperature physiology in general.

In 1910 returning from Paris Giaja established the first Chair of Physiology in the Balkans and organized the first Serbian Institute for Physiology at the School of Philosophy of the University of Belgrade. Giaja became member of the Serbian and Croatian academies of science and doctor honoris causa of Sorbonne and associate member of the National Medical Academy in Paris. In 1955 the French Academy of Sciences elected him as

associate member in place of deceased Sir Alexander Fleming. Giaja died 1957 in Belgrade during a congress held in his honour (an In memoriam was published in Nature).

Giaja's studies are still valuable from the standpoint of contemporary medicine and surgery, particularly the neurophysiology of hypothermia: the stimulating effect that occurs in the post-hypothermic state. Especially important for today's organ transplantation field, he also noted that the survival and viability of isolated tissues and organs (such as the heart) was much more pronounced if hypothermia preceded surgical intervention. Examples of rare cases of contemporary research that fruitfully employed Giaja's principles in neurosciences will be presented.

### **Lazar K. Lazarević, the author who first described the straight leg raising test**

Drača S. (College of Applied Sciences)

In addition to being one of the leading and most outstanding physicians in Serbia of his time, Dr. Lazar K. Lazarević (1851-1891) was also an enthusiastic scientist, writer and translator. His professional career was tragically short (1879-1890), but, in those eleven years he authored seventy-eight scientific papers and observations. His most important contribution to neurological science and to the medical science in general is his description of the straight leg raising test. The article entitled, "Ischiac postica Cotunnii- One contribution to its differential diagnosis", was published in Serbian in the Serbian Archives of Medicine in 1880, and republished in German in Vienna in 1884. In this paper, based on six patients from his medical practice, Lazarević correctly explained that stretching the sciatic nerve is the cause of the pain during this straight leg raising test. He gave a full description of several maneuvers used to perform the test, and described the control test. Unfortunately, maneuvers described by Lazarević are known by other names.

Nevertheless, on the basis of historical evidence, numerous authors admit that Lasègue never published the description of the straight leg raising test, and give full credit to its discovery to Dr. Lazarević. The great thing about Lazarević's article, like any good science, is that after a number of years test described by Lazarević continues to be the most recognized maneuver used for decades to evaluate patients with suspected lumbar root compression. It may therefore be concluded that this point undoubtedly proves the validity of Lazarević's legacy.

### **Leonardo Da Vinci and the search for the anatomical basis of the soul**

Brown R. E. (Dalhousie University)

Leonardo da Vinci (1452-1519) was one of the greatest thinkers of the Italian renaissance. As well as being an artist and an engineer, he was also an anatomist and a physiologist (M. Clayton & R. Philo. 2012. Leonardo da Vinci: Anatomist. London: Royal Collection Publications). Leonardo's anatomical work in Milan (1487-1499) was primarily as background detail for his paintings, but his drawings indicate that he attempted to solve, by observation and description of anatomical materials, some of the leading questions of the day about mental activity. How did the senses function? What organ controlled mental activity? Where was the seat of the soul? Unfortunately, his observations were never published in his lifetime and scholars have only his notes and drawings to examine. During Leonardo's time, there was a controversy as to whether the heart or the brain controlled mental life. Leonardo determined that mental life resided in the ventricles of the brain. He showed the optic nerves entering the anterior ventricle (the "imprensiva") and the auditory and olfactory nerves entering the middle ventricle (the "senso comune"). He put the intellect ("intelletto") in the anterior ventricle,

the will and voluntary movement ("volonta") or "soul" in the middle ventricle and memory ("memoria") in the posterior ventricle. Thus, he thought that sensory information had a direct input to the intellect which controlled motor behaviour and led to memory (Del Maestro, 1998. *J. Neurosurg* 89, 874-887). This poster shows some of the drawings that Leonardo used to illustrate his ideas and gives some idea of how important the anatomical studies of the renaissance artists were for the development of theories of brain function in the early modern era.

## Sherrington's Box of Wonders

Molnár Z. (Oxford University) and Brown R. E. (Dalhousie University)

Much of the history of neuroscience is being lost or discarded and so it is somewhat of a miracle that a box of glass microscope slides belonging to Sir Charles Sherrington and labelled "Histology Demonstration Slides" has survived in the Physiology Department at the University of Oxford. This box contains 21 drawers of slides from Sherrington's years at St Thomas Hospital (1888-1895), Liverpool University (1896-1914) and Oxford University (1914-1935). This poster gives an overview of Sherrington's life (1857-1952) and his work in Neuroscience (1888-1935) as depicted by the glass slides of animal tissue in the box of wonders. Much is known about Sherrington's work as a scientist, his poetry, and the students that he trained, many of whom became famous in their own right (Liddell, E.G.T. 1952. *Obituary notices of fellows of the Royal Society*, 8, 241-270; Eccles, J.C. and Gibson, W. CV. 1979. *Sherrington: His life and thought*. Springer, Berlin). There are archives of Sherrington's papers at Oxford and UBC in Vancouver at the Royal Society of London. But the discovery of his slide collection enables us to examine the very slides which Sherrington used to write his papers and teach his classes. In addition, there are slides from other neuroscientists, including Ruffini, who Sherrington aided in the publication of his studies on the "Ruffini organ" and muscle spindles. In this poster we present some of the slides from this amazing collection and relate them to Sherrington's early publications and his development of the idea of the synapse.

## The Vincenzo Neri Medical Film and Photographic Collection (1907-1956 circa)

Neri Group (interdisciplinary team composed by neuroscience historians, film historians and archivists)

The presentation of the main results of the research on the Neri's visual production, in the framework of the Neuroscience History and Medical Film History, together with the restoration report. Vincenzo Neri (1880-1961) was an early 20th century clinician who played a significant role in the history of neurological science. He was a pupil of Joseph Babinski (1857-1932) in Paris. He attached great importance to neurological semiotics, observation and study of the objective manifestations, signs, of neurological diseases. Alongside direct visual observation, Neri experimented with three principal methods of analysis and representation in order to fix, print, capture the "clinical signs" to distinguish maladies of functional and psychiatric origins from the neurological: the graphic method (impressions, drawings, diagrams); the chrono-photographic method (cinema) and the photographic method. Neri had the possibility to discover cinematography at the very beginning of his career, when in 1908 he went to Paris to learn and improve his clinical background following some neurological cases with Babinski. The cinematographic, chrono-photographic and photographic methods characterized the whole research of Vincenzo Neri: he conjoined Babinski's semeiotic and Eitenne-Jules Marey. At the beginning of 19th century Neri was the specialist who filmed several patients of famous Parisian Neurologists such as Babinski and Pierre Marie; his pictures were published into several important French neurological journals and medicine texts. When he came back to Bologna, Neri continued in his clinical activity



for 50 years, developing, year after year, a huge archive of film, images and prints. This archive was really helpful for Neri – he needed to analyze neurological disorders and to differentiate them from functional conditions, in order to understand their clinical signs, rules and mechanisms. He applied cinematography not only in the field of neurology but also in psychiatric. In Paris, Neri had the possibility to collaborate with Georges Mendel who helped Doyen to shoot the first surgery operation in the history of cinema. Neri's use of the cinematographic medium had the aim to improve knowledge in the neurological field, in particular in order to differentiate pathological and functional conditions. The collection contains scientific visual material: 1572 artefacts, 1353 photographic elements (negatives, prints and photographic plates, as well as stereograms, reproductions of sketches of the imprint of the patients' feet); paper prints, audio recordings, indirect evidence (paper prints) of films in 17.5mm (probably from a Biokam and dating back to 1909-10); 113 typographic stereotypes, cliché; 106 film artefacts (35mm camera negatives and projection positives, 16mm, 1907-1956 circa).

## **Volodymyr Betz - world-renowned Ukrainian neurobiologist**

Salyha Y.

Volodymyr Betz (1834-1894) - world-renowned neurobiologist, anatomist and histologist, professor of the Kyiv University (Bohomolets National Medical University), famous for the discovery of giant pyramidal neurons of primary motor cortex which later were named Betz cells is most famous Ukrainian neuroscientist.

Volodymyr Betz began his education in the Nizhyn Gymnasium (Ukraine, part of the Russian Empire at that time). Later he transferred to the 2nd Kyiv Gymnasium and graduated from it in 1853. In 1860 he received a physician's diploma from the Medicine faculty of Saint Volodymyr University in Kyiv (now Taras Shevchenko National University of Kyiv) and was appointed a prosector's aide at the anatomy department. He went abroad to study in May 1861 and returned in September 1862, having studied with and attended the lectures of professors Brücke, Bunsen, Kölliker, Helmholtz, Kirchhoff. From 1864 to 1867 he lectures anatomy and histology at the university, rising in 1868 to the rank of Extraordinary Professor and in 1870 becoming Ordinary Professor of the anatomy department. Brain tissue preparations made by Betz were awarded medals twice - at the All-Russian manufacturing exhibition in 1870 and at Vienna World Exposition of 1873. In 1874 Volodymyr Betz described the giant pyramidal neurons in the primary motor cortex, which later were named Betz cells.

## **Volodymyr Pravdych-Neminsky: first non-invasive EEG and survival under state terror**

Boldyriev O. (International Center of Molecular Physiology NAS of Ukraine)

Since 1908 a young student of Kyiv Polytechnics Volodymyr Pravdych-Neminsky entered the chair of physiology to assist in experiments. Detailed knowledge of physics and chemistry with experienced supervisor skills got a breakthrough: in 1913 Pravdych-Neminsky registered first brain cortex potentials from intact dog. He called new technique 'electrocerebrography' and published his results in "Zentralblatt für Physiologie". The term 'EEG' was coined by Hans Berger in 1924 while all the waves Neminsky had shown in dog brain were the same. His further investigations were interrupted by Ukrainian revolution in 1917, German invasion in 1918, Russian-Ukrainian war of 1918-1921. He returned to research after Soviets overtook Kyiv in 1920, but since then he was under secret supervision as member of 'old counterrevolutionary' university stuff. Pravdych-Neminsky continued to publish his neuroscience articles in the best German journals in 1924-29. He was awarded title of full professor in 1929 but soon arrested by NKVD for false accusation. Totalitarian state machine took his best

years of life, exiled him from his Ukrainian motherland, but he survived to continue his research. Only in 1949 Soviet authorities called to memory him and his discovery. Pravdych-Neminsky was given a personal laboratory in Soviet Academy of Sciences where he could resume his neuroscience studies for the last 3 years of his life. After his death a book of selected works was published with a censored biography which has a 'white spot' between years 1929 and 1949. Here we try to elucidate Pravdych-Neminsky fate and input to the neuroscience.

### **3. The European Brain Museum (EBM) Project**

Learn more about the EBM Project on the FENS History Website: [www.fens.org/Outreach/History/](http://www.fens.org/Outreach/History/)

#### **A Brain Museum Tour of Europe**

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Supported by The FENS History of Neuroscience Committee

Europe has a rich history of neuroscience research and clinical neurology, but where can the history of European neuroscience be found? The historical artefacts, documents and discoveries of European neuroscience exist in many museums, but these are often forgotten or neglected within Europe and relatively unknown outside of Europe.

The purpose of this project, supported since 2015 by the FENS History of Neuroscience Committee, is to present a tour of the brain museums of Europe on a WEBSITE, showing the museums with materials relevant to the history of neuroscience in each country. The history of neuroscience relies of objects from the past and this website describes the collections related to brain research in European museums. Using this website will enable students and researchers to locate historical objects in museums and plan visits to these museums for teaching and research.

The presentation consists of a poster/oral presentation and a website which participants can browse for information. The present Website contains information on 31 brain museums in 18 countries, with more being added as we find them. The website is a work in progress and we hope that users will provide us with information about brain museums which we have not yet discovered. If you are planning a trip to one of the European cities with a brain museum, this website will guide you to the location and the exhibitions on view. Enjoy your tour of Brain Museums in Europe!

If you know of brain museums not presented on this poster, please contact the History Committee [history@fens.org](mailto:history@fens.org).

#### **Heritage of the Scuola Grande di San Marco in Venice and Neuroscience**

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Hospital in Venice is dedicated to Saint John and Paul, since 1819 it occupies the ancient buildings of the Hospital of Saint Lazarus (San Lazzaro ai Mendicanti) connected with the Convent of Dominicans and of the Scuola Grande di San Marco.

The Scuola Grande has a large historic and scientific heritage associated with rich archives (from 1194). A Library devoted to history of medicine consists of 18.000 volumes (ancient and modern, with volumes by Plinius, Hippocrates, Galien, Vesalius, Bidloo, Morgagni, Santorini) and remarkable equipment consisting of medical-surgical instruments of historic interest. We would also like to mention the historical pharmacy and pathological Museum "Andrea Vesalio". In the same location, there is an outstanding artistic structure that had the assignment to provide ethical and care assistance. This activity continues today as the medical-scientific work holds up the tradition of the ancient moral and professional ethic which preached to care for the sick.

The cultural heritage is increasing with acquisition of one hundred of ancient volumes related with neuroanatomy, neurosurgery and neuroscience belong of Massimo Collice (1945-2009), a neurosurgeon who worked in Milan. This heritage has permitted the involvement of the Scuola Grande di San Marco in the network the European Brain Museum (EBM) project, organizing a Neuroscience History Seminar in November 7th, 2015 supported by the FENS History Committee.

Today the Great School of San Marco, heritage of the Azienda ULSS 12 Veneziana represents a cultural and museum centre of international high-profile with promotion of history of medicine and ethic, including on neuroscience.

## Neuroscience in Genoa

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In 1593 in Genoa, the Magistrate, of hospitals for the incurable, decided to allocate two beds for alienated. In 1627, the number of beds increased reaching the number of 50. In 17th century in Genoa the alienated were considered patients and admitted in a small ward. In 1841, was inaugurated a mental institution with the application of rational criteria for the admission of patients affected by neuro-psychiatric diseases.

The separation between Psychiatry and Neurology was established by neuro-psychiatrist Enrico Morselli (1852-1929). He contributed to the foundation of the Italian Society of Neurology in 1907 and he was one of the first Presidents from 1909 to 1911. He promoted the building of the Neurology Clinic that was inaugurated in 1933 by Ugo Cerletti (1877-1963) that was appointed chair of the clinic. He is famous for the invention of the electroshock. He began his experiment in electricity and created different activities of research. When Cerletti moved to Rome Lionello De Lisi (1885-1957) succeeded as head of the Neurology department. He was a multifaceted man with interest in neurology and art. He gave important contributions on aphasia, Wilson's disease and progressive muscular atrophy. In 1949, he founded the journal "Sistema Nervoso" ("Nervous System"), that ceased the publication in 1970. After the death of De Lisi became head of the clinic Cornelio Fazio (1910-1997), that permitted the creation of the Neuroscience department, focusing on neurophysiology. Fazio moved to Rome and was appointed Chair of Neurology Carlo Walter Loeb (1921-2005) who promoted the study on dementia and vascular disease. He stimulated the study in neurophysiology describing the "alpha coma".



The story of Neuroscience in Genoa is part of a project promoted by Federation of European Neuroscience Societies (FENS) for the development and census of libraries, archives, and museums in Europe entitled European Brain Museum (EBM).

The aim is to preserve European Neuroscience by making available to the wide public materials and archives online on European neuroscientists or important historical events.

## **Nazi scientists as expert consultants for books and scientific instruments pillaging at the University of Pisa in 1944**

Marco Piccolino (Centre of Neurosciences, University of Ferrara, Italy). Email: [marco.piccolino@yahoo.it](mailto:marco.piccolino@yahoo.it), tel. +39 3284909380.

Nazi attitudes to books varied from a systematic destruction of volumes considered as subversive or anti-Nazi, or to pillaging for the use in research related to the scopes of the Third Reich. In this last respect the pillaging of Jewish books organized by Alfred Rosenberg for the library of the Institut zur Erforschung der Judenfrage is well documented. These forms of plundering were organized under the "scientific advice" of experts like Johannes Pohl His presence is documented in various parts of Europe, from Rome to Thessaloniki and Vilnius. Less well known was the pillaging of scientific books (and instruments). This also involved experts, and was carried out by Nazis often following the request of German scientific societies or universities strongly "Nazified". An example can be found at Heidelberg University, where research was almost totally coherent with Nazi ideology. Recently I could reconstruct the pillaging of scientific books (and instruments) at the institutes of Physiology and of Physics in Pisa in 1944. The first one was carried out under the supervision of Hans Nothdurft, a Heidelberg physiologist, and the second by Guido Dessauer, a physicist and member of the German grand-bourgeoisie (the brother of John, the inventor of xerography). Nothdurft could rob the physiological library without difficulty but, during the pillaging of the physical institute, Nazi officers were confronted by Professor Mariannina Ciccone, who "precipitated on the soldiers with a fury such as an enraged tigress would defend her offspring" and thus succeeded in saving many books and instruments.

## **European History of Neuroscience Seminars: A local spreading of knowledge throughout Europe**

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Introduction: In 2015 the first round of seminars dedicated to the history of neurosciences was held, which was coordinated by the FENS History Committee.

Several European scientific institutes have collaborated on five seminars in different cities (Milan, Oxford, Venice, Paris, London). The first of these meetings was organized by the Carlo Besta Neurological Institute in Milan on April 2015.

Aim: The series of seminars wanted to spread an historical-scientific culture among doctors, researchers and the public, through the promotion of the historical heritage regarding neuroscience (archives, museums, libraries), owned by the various biomedical and European academic institutions, giving particular attention to the involvement of students and young researchers because the past is always an example for the future.

The study of History, in fact, not only allows one to know the roots and the starting point of today's medical practices, but also is an incentive and a challenge to develop new scientific research.

Methods: To evaluate the liking of the seminars a questionnaire has been prepared which was given to all participants, translated into different languages.

The questionnaire consisted of five multiple choice and two open questions that have been used to detect not only the approval of such an initiative, but also the general public opinion towards a discipline with little space in the academic education of young doctors such as history of neuroscience.

Results: The results of the survey show that the project's satisfaction was really high, both between doctors and researchers, as amongst students and citizens.

Acknowledgements to local organizers who participated in the management of the European Seminars.

Find upcoming seminars on the FENS History Website: [www.fens.org/Outreach/History/](http://www.fens.org/Outreach/History/)