29th Meeting
International Society for the History of the Neurosciences

Bicentennial of Charcot's birth

Jean-Martin Charcot (1825-1893)

July 1-5 2025, *Paris Brain Institute*
Hôpital de La Salpêtrière, Paris

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Nadar, Phot.

PROFESSEUR CHARCOT
Professeur de Clinique des Maladies du Système Nerveux,
Faculté de Médecine de Paris.
(1882-1893).

Collection de la *Carnine Lefranc*.

International Society for the History of the Neurosciences

The 200th anniversary of the birth of Jean-Martin Charcot

One the cover

An advertising postcard with a photography by Félix Tournachon, known as Nadar (1820-1910), distributed by the *Carnine Lefrancq* pharmaceutical laboratory, which, from 1900 onwards, manufactured a therapeutic product based on bovine blood for patients weakened by tuberculosis.

On the back

A photography of Jean-Martin Charcot around 1890,
by Albert Londe (1858-1917). (Private collection OW).

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International Society for the History of the Neurosciences

Preface

29th Meeting
International Society for the History of the Neurosciences
July 1-5, 2025, Paris

Welcome to the 29th Annual Meeting of the *International Society for the History of the Neurosciences* under **the High Patronage of Mr. Emmanuel Macron, President of the French Republic.**

This volume contains the proceedings of the meetings held at Paris Brain Institute at La Salpêtrière hospital in Paris, on 1-5 July, 2025.

The program committee Charcot 2025 responsible for refereeing the papers and posters, and for selecting those that appear here, comprised Olivier Walusinski (Chair, France), Manon Auffret (France), Julien Bogousslavsky (Switzerland), Laura Bossi (France), Francesco Brigo (Italy), Toby Gelfand (Canada), Christopher Goetz (USA), Axel Karenberg (Germany), Peter Koehler (The Nederlands), Douglas Lanska (USA), Andrew Lees (United-Kingdom), Marjorie Lorch (United-Kingdom), Mark Micale (USA), Christian Riederer (Germany), Frank Stanish (Canada), Helio Teive (Brasil).

We would especially like to acknowledge the friendly support of the local organization committee Yves Agid, Laura Bossi, Emmanuel Broussolle, Martin Catala, Hubert Déchy, Gilles Fénelon, Christopher Goetz and Jacques Poirier.

The local arrangement manager, which was responsible for accommodation, registration, entertainment, and the financial arrangements consisted of Olivier Walusinski with the help of Jean-Louis Da Costa, Nicole Fourn (Paris Brain Institute), Pauline Maisani (Hospital manager La Salpêtrière, and Gaëlle Simon (Prem C, Agence évènementielle https://premc.org/).

We would especially like to acknowledge the friendly support of Stéphanie Debette, Executive Director of Paris Brain Institute, Philippe Albou, president of the Société française d'Histoire de la Médecine, (2024-2025), Catherine Barthélémy, chairwoman and Christian Boitard perpetual secretary of the Académie nationale de Médecine (2024), Hélène Harter, professor of history at the University Paris1 Panthéon Sorbonne, Jérôme Honnorat, chairman of the Société française de Neurologie (2023-2024), Marie Vidailhet, chairwoman of the Société française de Neurologie (2025-2026).

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Société Française de Neurologie

ean
european academy of neurology

With all our thanks and gratitude

Christelle Téa

ISHN is delighted to help a young French artist make a name for herself

© Photo by Fabrice Le Dantec

Chistelle Tea, born in 1988, is an independant artist. She lives and works in Paris. She draws from life not only portraits but also interiors and landscapes, or all together.

Specially for the ISHN Meeting, she designed a small serie of portraits of Jean-Martin Charcot, based on old photographs. One of them serves as the logo for the event.

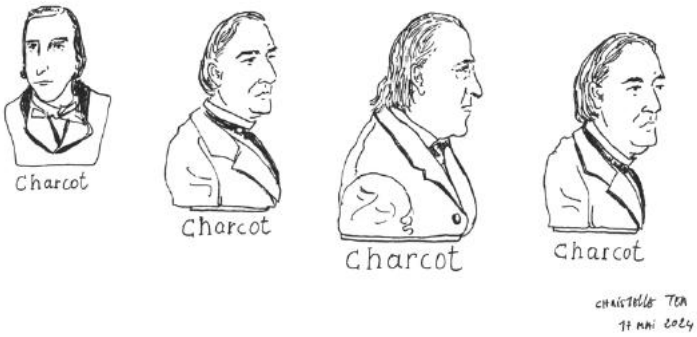
After a degree in Visual Communication at the *École Olivier de Serres* in Paris, Christelle Téa entered the *École Nationale Supérieure des Beaux-Arts* in Paris in 2010, where she studied with Patrick Tosani, Jean-Luc Vilmouth and Philippe Comar. She obtained the ***Higher National Diploma in Visual Arts*** in June 2015 with unanimous congratulations from the jury.

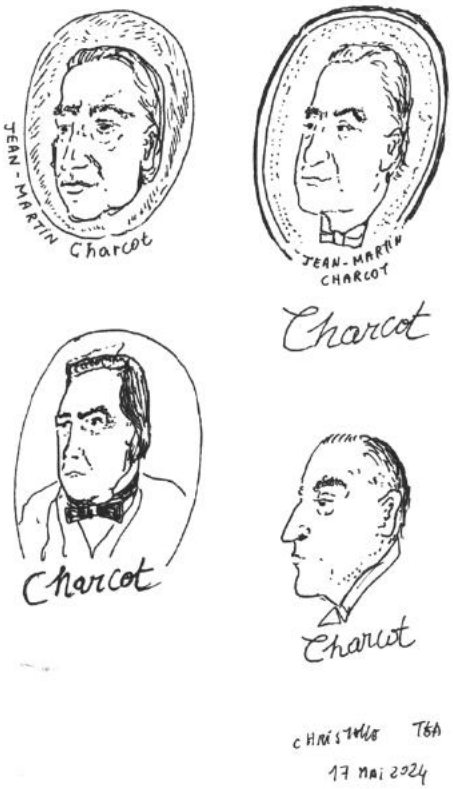
Today, she devotes herself mainly to drawing portraits from life, where she represents the model in her interior, paying particular attention to this environment, symbolizing for her the expression of the models' personality. These drawings are made directly in front of the model, in Indian ink, without drafting or repentance. Christelle Téa seeks resemblance but not realism, because for her drawing is about selecting the most significant elements from the complexity of the visible. Christelle Téa also devotes herself to interior views, drawn like portraits without models, as well as landscapes. In these works, she decants a materiality to reveal the essence of her perception.

On the contrary, his lecture drawings, made in real time, represent his visual and auditory impression of the speaker's performance.

Website: https://christelletea.com

Christelle Téa





Website: https://christelletea.com

Program
Tuesday July 1, 2025

8h30 - 9h Registration

9h Welcome and Opening
Prof Stéphanie Debette (Executive director Paris Brain Institute)
Olivier Walusinski (Local Committee President)

Session 1
9h30 Jean-Martin Charcot (1825-1893): his life, his works. ***O. Walusinski***
10h The landscape of scientific and medical research at the time of Jean-Martin Charcot. ***Denis Guthleben***

10h30 - 11h Coffee break

11h Si je ne me trompe pas": Charcot's neurological legacy in the 21st century. ***Christopher Goetz***
11h30 Charcot's contribution to movement disorders.
Carlos Henrique F. Camargo
12h Charcot's contributions to the understanding of ischemic stroke.
Jan van Gijn, Marie-Germaine Bousser

12h30 - 14h Lunch Break

Session 2
14h Charcot's erroneous double-semi decussation scheme for the retinocortical visual pathways. ***Douglas Lanska***
14h30 Charcot identified and illustrated amyotrophic lateral sclerosis.
Danielle Seilhean
15h The peripheral nerve: a neglected topic in Charcot's neurological work.
Laurent Tatu, Julien Bogousslavsky

15h30 - 16h Coffee Break

16h Jules-Bernard Luys (1828-1893) and Charcot: the impossible match.
Roger Dachez
16h30 Jean-Martin Charcot: from morbid anatomy of cerebral hemorrhage to detailed description of lymphatic system in the brain.
Eglė Sakalauskaitė-Juodeikienė
17h Jean-Martin Charcot visionary of multiple sclerosis ***Anne Boullerne***

17h30 End

Program
Wednesday July 2, 2025

Session 3
9h Proof through Images: Art and Medicine According to Charcot. ***Jean-Claude Dupont***
9h30 Edvard Munch's Crisis in 1908 and French Medicine: his doctors, treatments, and sources of information. ***Elisabetta Sirgiovanni, S. Finger,***
10h Jean-Martin Charcot and Alfred Vulpian, a lifelong friendship. ***H. Déchy***

10h30 - 11 h Coffee break

11h The Stone of Madness. Charcot's interest in a copy after Pieter Bruegel sr. as referred to by Henry Meige. ***Peter Koehler***
11h30 Cogito or the modern self: the place for Descartes' skull in Paul Richer's drawings. ***Joao Tavares, Rosa Cipriano***
12 h 1852 a significant year in the life of Jean-Martin Charcot. ***Martin Catala***

12h30 - 14h Lunch Break

Session 4
14h The Internal Image: mind and brain in the age of Charcot. ***Katrin Schultheiss***
14h30 Charcot and Hallucinations: a study in insight and blindness. ***Gilles Fénelon***
15h JM Charcot's Theater of the Mind: acting out and working through trauma. ***Suzanne LaLonde***

15h30 - 16h Coffee Break

16h The chair of mental and brain diseases and Charcot's pupils: Benjamin Ball, Alix Joffroy and Gilbert Ballet. ***Denis Tiberghien***
16h30 Charcot and his pupils (Janet - Freud) and the birth of psychic trauma. ***Jean-Pierre Luauté***
17h Jean-Martin Charcot's clinic and modeling of the disease. ***Céline Chérici***

17h30 End

Program
Thursday July 3, 2025

10h - 11h 30 Historical visit of La Salpêtrière and Charcot's library
by ***Marin Catala***

The Charcot library will be open every afternoon from 1:30 to 5:30 pm and on Thursday morning, July 3, from 10 am to noon. **It can only accommodate twelve people at a time.** We would like to thank Sylvie Leroux, the library's curator, and her team for making this visit possible, along with an exhibition of twelve exceptional historical documents.

13h30- 18h30 A cultural tour (Bus departure La Salpêtrière)
12 rue de l'École de Médecine, Paris VI :

1°) André Brouillet : Une leçon clinique à La Salpêtrière
(Musée histoire de la médecine)
2°) The ancient treasures of the Faculty of Medicine library
3°) L'École pratique et le Couvent des Cordeliers :
Statue Victor Cornil by Paul Richer
4°) Statue Vulpian by Paul Richer, rue Paul Dubois

53 Boulevard du Commandant Charcot Neuilly sur Seine
Visit of the Summer residence, birthplace of Jean-Baptiste Charcot
(July 15, 1867)
architect: René Simonet, house built in 1813

18h Bus back to La Salpêtrière

19h30 - 23h
Gala Dinner, Hôtel de Varengeville
217 boulevard Saint-Germain Paris VII
only 40 paying places, reservation required
ISHN awards and prizes

Program
Friday July 4, 2025

Session 5
9h Charcot as a collector and critic of the arts: Relationship of the "Founder of Neurology" with various aspects of art.
Nicoletta Caputi
9h30 Identifying Illness: sketching patients at Charcot's Salpêtrière.
Natasha Ruiz-Gómez
10h Paul Richer, drawing and sculpting pathology in touch with his mentor Jean-Martin Charcot. ***Grégoire Hallé***

10h30 - 11 h Coffee Break

11h André Brouillet (1857-1914) and its painting *Une Leçon clinique à La Salpêtrière.* ***Jacques Saint-Just***
11h30 Charcot the dramaturg: relations between Charcot's practice & the worlds of performance, 1870s to the present. ***Jonathan Marshall***
12h The private dislike of Charcot: Léon Daudet and Edmond de Goncourt. ***Julien Bogousslavsky***

12h30 - 14h Lunch Break

Session 6
14h Charcot's foreign visitors and pupils from Europe, USA and Russia. ***Emmanuel Broussolle***
14h30 The Prominent Role of Charcot and the French neurological tradition in Latin American. ***Helio Teive, Carlos Camargo***
15h Osler & Charcot: apostles of international medicine. ***Nadeem Toodayan***
15h30 Henri Parinaud & Xavier Galezowski, ophthalmologists at La Salpêtrière and namegivers of a disease. ***Barend F. Hogewind***

16h - 16h30 Coffee Break

16h30 Male Hysteria in the writings by J.-M. Charcot and Hysteric Soldiers in the interwar Lithuania (1924-1929)
Emilijus Žilinskas
17h From Charcot to modern epilepsy classification: a historical perspective on seizure diagnosis and evolution**.** ***Rūta Mameniškienė***
17h30 Kinnosuke Miura and Jean-Martin Charcot: a Master-Disciple legacy in modern Japanese neurology. ***Takayoshi Shimohata, Makoto Iwata***

18h ISHN Presidential Lecture
Jean-Martin Charcot, member of thesis juries at the Paris medical school (1862–1893*).* ***Olivier Walusinski***

Program
Saturday July 5, 2025

Session 7
Special session: Charcot photography, chrono-cinematography and music

9h Charcot and the birth of neurological photo-chrono-cinematography**.** ***Francesco Brigo, Lorenzo Lorusso, Tamara Sandrin***
9h30 The forgotten cultural influence of Jean-Martin Charcot: hysteria and hypnosis in early cinema. ***Dennis Henkel, Axel Karenberg***
10h Charcot on Screen: portrayals and preconceptions of a medical icon**.** ***Francesco Brigo, Lorenzo Lorusso***
10h30 From clinic to stage: J.-M. Charcot's influence on theatre and dance. ***Francesco Brigo, Lorenzo Lorusso***

11h30 ISHN Annual General Meeting

12h30 End of this great Event

The Charcot library will be open every afternoon from 1:30 to 5:30 pm and on Thursday morning, July 3, from 10 am to noon. **It can only accommodate twelve people at a time.** We would like to thank Sylvie Leroux, the library's curator, and her team for making this visit possible, along with an exhibition of twelve exceptional historical documents**.**

Speakers of the meeting and their affiliation

Bogousslavsky Julien
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Neurology, Hôpital Lariboisière. Université Paris Cité (Paris, France)

Broussolle Emmanuel
Neurology, Pierre Wertheimer Neurological Hospital (Lyon, France)

Brigo Francesco
Innovation, Research and Teaching Service (SABES-ASDAA) (Bolzano-Bozen, Italy)

Camargo Carlos F. Henrique.
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Federal University of Paraná (Curitiba, Paraná, Brazil)

Caputi Nicoletta,
Neuropsychologist, University of L'Aquila (L'Aquila, Italy)

Catala Martin
Sorbonne Université, Biologie du Développement : Morphogénèse du Cerveau des Vertébrés (Paris, France)

Chérici Céline
UFR de sciences humaines et sociales et philosophie (Amiens, France)

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Philosopher, independent scholar, (Lisboa, Portugal)

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Dupont Jean-Claude
Centre d'histoire des sociétés, des sciences et des conflits (Amiens, France)

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Department of Neurology, CHU Henri Mondor (Créteil, France)

Goetz Christopher G.
Rush University Medical Center (Chicago, USA)

Guthleben Denis
Directeur délégué du Comité pour l'histoire du CNRS (Paris, France)

Henkel Dennis
Physician and medical historian (Cologne, Germany)

Hogewind Barend F.
Haaglanden Medical Center (The Hague, The Netherlands)

Iwata Makoto
Medical Clinic Kakinokizaka (Meguro, Japan)

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Institute for the History of Medicine and Medical Ethics (Köln, Germany)

Koehler Peter J.
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Professor of Literatures and Cultural Studies, University of Texas (Rio Grande Valley, USA)

Lanska Douglas J.
Department of Neurology, University of Wisconsin School of Medicine and Public Health (Madison, Wisconsin, USA)

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Mameniškienė Rūta
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Marshall Jonathan W.
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van Gijn Jan
Department of Neurology (Utrecht, The Netherlands)

Walusinski Olivier
Family physician (Brou, France)

Žilinskas Emilij
Neurologist (Vilnius, Estonia)

Jean-Martin Charcot (1825–1893), his life, his works

Olivier Walusinski

"The history that will be presented to you today is that of a very simple and very glorious life; it is quite beautiful to recount" (Marie, 1925). When Jean-Martin Charcot was born on 29 November 1825, his parents lived at 1 rue du Faubourg-Poissonnière in Paris's ninth district. He was the eldest son of Simon Pierre Charcot (1798–1863), a saddler-coach builder, and Jeanne-Georgette Saussier (1808–1839). He had four brothers: Eugène Charcot, born on 23 December 1826, died after only fifteen days; Pierre-Martin Charcot (1828–1906) took over his father's business; Émile-Martin Charcot (1830–1899) devoted himself to a military career, becoming an officer, captain of the infantry; and lastly, Jean-Eugène Charcot (1831–1869), also in the military, died in Senegal, probably of malaria.

Charcot passed his "baccalauréat" exam on 31 August 1843. As his father had announced during a family meal, he could only afford long, costly studies for one of his children, in principle the eldest, and thus Jean-Martin.

Medical Training

After passing the competitive exam for external hospital students ("externe") in December 1845, Charcot was named a temporary resident in 1847, then passed the competitive residency exam ("interne") for the Hospitals of Paris on 18 December 1848, along with Alfred Vulpian (1826–1887), who became his inseparable friend. He was successively the resident of Louis Béhier (1813–1876) and Pierre Rayer (1793–1867) at the famous La Charité Hospital; of Pierre-Adolphe Piorry (1794–1879) at the old La Pitié Hospital; and of Eugène Cazalis (1808–1883) in his fourth year of residency at La Salpêtrière Hospital: "[At La Salpêtrière,] he gathered the elements of his inaugural thesis, knew how to appreciate the heaps of inexhaustible resources in this women's nursing home and asylum, and resolved to return there as a physician" (Joffroy, 1893). Piorry, a professor of clinical medicine who had already recommended using the microscope, offered Charcot a position as his senior resident ("chef de clinique") in 1853 and 1854. But it was Rayer, future physician to Napoléon III, who would have the most decisive influence on Charcot's career. Working alongside Rayer, Charcot soaked his experience as a powerful leader who remained attentive to his students. Before he allowed him to pass the "agrégation" exam (opening the way to an associate professorship), Rayer had him join the French Society of Biology, which he presided over at the time and which he had founded together with Claude Bernard (1813–1878) and Charles Robin (1821–1885). Charcot became a full member in 1851, "a young man and colleague of eminent personalities" (Goetz et al., 2005), such as Claude Bernard, Charles Brown-Séquard (1817–1894), François Magendie (1783–1855), and Émile Littré (1801–1881). They discussed advances in clinical science and laboratory research and were strongly shaped by the positivist philosophy of Auguste Comte (1798–1857). By belonging to this society, Charcot was able to publish his own work very early on, and by remaining faithful to it throughout his career, he in turn did not fail to sponsor the entry of most of his residents.

Charcot's thesis was his first nosographic work. In it, he distinguished gout from chronic rheumatism (considered today as rheumatoid polyarthritis and degenerative arthritis, respectively). The importance he placed on references to the English and German literature indicated not only his erudition and mastery of foreign languages, but also established an innovative approach to this kind of personal work. He defended his thesis on 16 March 1853, with Piorry presiding over the jury (Charcot, 1853). His talents as an illustrator were apparent in his drawing of hands with deformed fingers that illustrated his thesis.

AGE 35. 1860.

AGE 38. 1863.

AGE 41. 1866.

AGE 47. 1872.

AGE 51. 1876.

AGE 55. 1880.

Rayer has also helped him develop a private clientele. It was on his recommendation that the family of the banker to Napoléon III, Achilles Fould (1800–1867), went to Charcot for medical care, providing him with the necessary network to become the physician of Paris's high bourgeoisie. He need no longer have any financial worries.

In 1856 Charcot passed the competitive exam for the "Central Office"; that is, he acquired the status of a hospital physician. On 17 April 1857, at his first attempt to pass the "agrégation" exam (to become an associate professor), he was given a thesis subject that hardly inspired him: "expectation in medicine". He failed after having expressed numerous doubts about the approach, often adopted, whereby no treatment was provided during pneumonia. He admitted having observed "the medicative power of nature" in this disease, but went on to say that "in general, [it] imperiously calls for active and energetic medication". The lack of conviction and thus of a clear conclusion worked against him.

In 1860, when he became vice-president of the French Society of Biology, he also successfully passed the "agrégation" exam (to become an associate professor), as did his friend Vulpian. This "agrégation" thesis "on chronic pneumonia" was a compilation of works mostly focused on febrile prolonged progression, from acute lobar pneumopathy to a serious degradation in general condition and ultimately to death. The autopsy found gangrene in the lungs, with wide, non-functional fibrous segments, sometimes with cavities but without tubercules. The ætiology remained mysterious at a time when bacteriology was still unknown.

Ten years after having been a resident at the women's nursing home and asylum at La Salpêtrière Hospital, Charcot was appointed chief physician there in 1862, taking over the Pariset division from Cazalis. Charcot was 37 years old. His friend Vulpian was appointed to head the second entity, the Pinel division. On 1 July 1862, the two friends were in charge of 2,635 patients (Husson, 1862). At a time when the nosography of chronic pathology, notably that affecting the nervous system, was in its infancy, "the two young 'agrégés' (associate professors) could be seen working together from room to room of this immense asylum, examining all the patients, gathering all the observations, and compiling an enormous dossier that gradually expanded to include autopsies and histological studies and the precious contribution of laboratory research". They were applying the anatomoclinical method. In France and England, the first half of the nineteenth century saw the development of this method, which compared the examination of the patient, as objective as possible, with the anatomical lesions found at autopsy. René Théophile Laënnec (1781–1826), who combined medial auscultation with the use of a stethoscope to study macroscopic lesions of the lung and heart, remains the emblematic figure of this period. But in neuropathology, the real master was Jean Cruveilhier (1791–1874), the first to hold the chair of anatomicopathology at the Paris medical school. After completing his residency with Guillaume Dupuytren (1777–1835), he defended his thesis in 1816—*Essai sur l'anatomie pathologique en général* (Essay on Pathological Anatomy in General)—in which he noted that "all good minds in France today are driven by an ever-increasing ardour" towards pathological anatomy and physiology, closely linked to medicine. In the mid-nineteenth century, the advent of the achromatic optical microscope and the cell theory introduced by Mathias Schleiden (1804–1881) and Theodor Schwann (1810–1882), and perfected by Rudolph Virchow (1821–1902), led to a revolution, given that the macroscopic pathological anatomy of the early nineteenth century was purely macroscopic (Poirier, 1999). In his first lesson on the diseases of the elderly, in 1874, Charcot underscored this profound revolution in medicine wrought by "histology armed with the microscope" (Charcot, 1867) and, at Vulpian's funeral, he emphasised that "macroscopic pathological anatomy had, in Cruveilhier's hands, the highest possible degree of perfection, but it was no longer enough. On the other side of the Rhine, Virchow had paved the way to the study of cellular lesions. In France, Vulpian was to be the man of this radical shift" (Charcot, 1887). In only eight years, from 1862 to 1870, the two friends enriched medical nosography, adding to it the clinical features of multiple sclerosis and Parkinson's disease and describing tabetic arthropathy and medullary localisations, among others. In 1866, Charcot began teaching, in his department and outside the Paris Medical School, mixing theory and clinical elements of chronic disease, notably in the elderly (Charcot, 1867), then in nervous system diseases. He quickly became known for the originality and quality of his lessons, compiled by Benjamin Ball (1833–1893). They

attracted more and more attendees, notably foreigners visiting Paris, and thus laid the foundation for the Salpêtrière School.

The Franco-Prussian War, the revolutionary Commune, and the defeat hindered Charcot but did not stop him from pursuing his career. He remained in Paris but sent his wife and two children first to Dieppe, then to London, when the Germans were approaching the English Channel. Wearing a Red Cross armband that allowed him to get past the barricades of the Commune, he reached, not without risk, the women's nursing home and asylum, situated in east Paris, whereas he resided at 6 avenue du Coq, situated in west Paris, near the new Saint-Lazare train station (Charcot, 1926). At La Salpêtrière, he treated not only wounded soldiers but also numerous victims of smallpox and cholera epidemics, which interrupted his research and his private practice.

Once peace was re-established, in 1872 he was appointed to the Chair of Pathological Anatomy, replacing Vulpian who went on to hold the Chair of Experimental Pathology. Whereas Charcot tended to be reticent on political subjects, the ideology of the young Third Republic was in keeping with his positivism and anticlerical views. In 1873, Charcot was elected to the French Academy of Medicine, then in 1883 to the French Academy of Sciences.

A dozen of "free" lectures, given in a refectory of the department, were published in various journals and then grouped together in 1872 in a book entitled *Leçons sur les maladies du système nerveux* (lessons on nervous system diseases).

Physician at La Salpêtrière Hospital

From his beginnings at La Salpêtrière, Charcot had his medical staff systematically take residents' temperature using a mercury thermometer and not simply with their hand. This was an innovation. His 1868 resident, Désiré-Magloire Bourneville (1840–1909), made this the subject of his thesis and later publications (Bourneville, 1870; Bourneville, 1873).

Charcot was initially a geriatrician. In 1856, he wrote the first dissertation summarizing the symptomatology of Graves's disease, unknown at that time in France. He insisted that the heart should not be considered the pathology's cause but remarked on the modifications to the structures and dimensions of the thyroid arteries. He put forth the hypothesis of an increase in the gland's activity by stimulation of the vasomotor nerves; auscultating the goitre, he noticed "a continuous blowing sound". For him, the increase in the volume of the acini was the result (Charcot, 1856).

François-Amilcar Aran (1817–1861) focused his 1853 "agrégation" thesis (to become an associate professor) on causes of sudden death, noting pulmonary embolism but without indicating the point of departure. Ball and Charcot showed in 1858 that a clot blocking the pulmonary artery was caused by venous phlebitis in a limb (Charcot, Ball, 1858).

We should remember Charcot's description of octaehedral crystals seen in the blood of a leukemic, which Ernst Victor von Leyden (1832–1910) would find again in 1872 in the spital of asthmatics, hence the eponym Charcot-Leyden crystals. These crystals are made of an enzyme, lysophospholipase, which is synthesised by eosinophil granulocytes, blood cells not yet described in Charcot's time (Walusinski, 2022).

From his early days at La Salpêtrière, Charcot multiplied his publications on various subjects: endocarditis, arsenic intoxication, canities, fever, thrombotic complications, cancer, and cholera, among others. His book on the diseases of the elderly was published in 1867, attesting to his activity as a geriatrician-internist before the speciality existed.

It is not possible to cover here Charcot's entire neurological oeuvre. But we will review his main works, intertwined over time, with some research subjects put aside to publish other works, then a later return to the initial research.

Multidisciplinary study of neurological illness

Charcot's visual perception and memory were extraordinary, and he possessed special artistic gifts as well. They were first a hobby for him and later a professional tool (Meige, 1925). He always surrounded himself with dedicated students and colleagues who helped him with his research and its dissemination. Bourneville founded the journals Progrès médical and Iconographie photographique de La Salpêtrière, not to mention his publication of collections of

the Master's lessons and his students' theses (Poirier et al., 1991). Richer illustrated hysteria at La Salpêtrière and was influenced by the art of previous centuries. He also created statuettes for educational purposes (La Parkinsonienne) (Walusinski, 2023). Albert Londe photographed patients and anatomical parts (Walusinski, 2021).

According to Joseph Babiński (1857–1932), Charcot had "faculties worthy of the great observers enabling him to discern hitherto unnoticed facts or those for which only a facet had been described. He had the capacity to concentrate his attention on them and see them from another point of view" (Babiński, 1925). The frequency of paralysis and abnormal movements in the women at the La Salpêtrière nursing home and asylum, some of whom had been hospitalised for many years, naturally led him to perfect the body of knowledge of the diseases of the nervous system, at that time incoherent. He also became a great teacher in this area.

Parkinson's disease

In the 29 November 1861 issue of La Gazette hebdomadaire de Médecine et de Chirurgie, Charcot and Vulpian published their first collaborative article called De la paralysie agitante (on paralysis agitans) (Charcot and Vulpian, 1863). The didactic goal of this article, a quasi-seminal description in French (Trousseau, 1859), is manifest. Charcot would introduce soon thereafter the denomination Parkinson's disease, a substitute for the inadequate term of paralysis agitans. The chapter on symptoms, mode of progression, and prognostics gave an accurate description

of the shaking, "the feeling of muscular stiffness", "the irresistible propulsion", and the slow speech, despite "very clear and very accurate comprehension", but "later, in general, psychological faculties decisively weaken". The prognosis "is very sad" due to "the weakening and especially the motor paralysis, along with the debilitation of memory and intelligence, which demonstrate that the reach of the disease is increasingly profound". "Therapy is more or less powerless against the disease's progression." It should be noted that Charcot was the first to distinguish bradykinesia in Parkinson's disease and separate it from rigidity or weakness: "Yet, long before rigidity actually develops, patients have significant difficulty performing ordinary activities; this problem relates to another cause. In some of the various patients I have presented to you, it is easy to recognise how difficult it is for them to do things, even when rigidity or tremor is not the limiting feature. Instead, even a cursory examination demonstrates that their problem relates more to slowness in execution of movement rather than to real weakness. In spite of tremor, a patient is still able to do most things, but he performs them with remarkable slowness. One would think neural activity can only be effected after remarkable effort" (Charcot, 1892).

Cerebral vascular pathology

Several influences led Charcot to take an interest in vascular pathology. During his residency under Cazalis at La Salpêtrière Hospital in 1852, he observed frequent cases of chronic gangrene in the lower limbs (Charcot, 1856a). He was also struck by the number of patients at the women's nursing home and asylum with hemiplegia (Lellouch, 1992). Interested in the work published in 1847 by Virchow on thromboembolism (Schiller, 1970), he accepted Virchow's findings based on his own clinical and anatomicopathological observations. The examples at that time were almost exclusively cases of rheumatic endocarditis and syphilitic arteritis, and less frequently artery-to-artery embolism (Paciaroni and Bogousslavsky, 2009). When Charcot was a resident, the debate that had begun at the beginning of the nineteenth century between the advocates of the inflammatory theory of apoplexy and those of the vascular theory was nearly dead. For him, there was no doubt that the origin of the cerebral lesion was "nutritive"; that is, ischaemic. The process is common to all localisations of arterial pathology, whether it develops in the arteries of the limbs or in the cerebral arteries. Charcot's observation of claudication in a lower limb, in 1859, bears this out (Charcot, 1859).

Cerebral vascular pathology brings together the names of Charcot and Charles Bouchard (1837–1915), his resident in 1864 and 1866, in the eponym Charcot-Bouchard aneurysm, a rare pathology that causes cerebral haemorrhage (Bouchard, 1866; Charcot and Bouchard, 1868). Current studies confirm the reality of microaneurysms, mainly in lenticulostriate arteries. To explain cerebral haemorrhage, the rupture of saccular aneurysms is possible but also the rupture of an arteriole without aneurysm or arteriolar dissection (Dubas, 2006). Charcot minimised the role of "exaggerated blood pressure in the vessels of the encephalon", which referred to arterial hypertension, but he lacked the means to measure it; he seemed to prefer "the decreased resistance of vessels following the degradation of their walls" to explain the bleeding.

The observations that Charcot compiled in the 1860s show that he had elucidated very early on the progressive pathophysiology of cerebral infarct. Using the term "cholestérine" (cholesterin), the name of cholesterol at the time, he identified the biological nature of atheromatous plaques (Walusinski, 2019). He had meticulously described its ulceration at the intima of an artery, on which a clot aggregated, causing obstruction of the vessel or emboli flowing downstream, leading to cerebral ischaemia and the resultant parenchymal lesions. Ivan Poumeau (1839–1878) revisited these observations in his famous 1866 thesis (Poumeau, 1866).

Locomotor ataxia or tabes

In 1858, Guillaume Duchenne de Boulogne (1806–1875) published the description of "a disease characterised especially by general disturbances of movement coordination" (Duchenne de Boulogne, 1858); this was the first description of progressive locomotor ataxia. The German Moritz von Romberg (1795–1873) had given a first description in 1851, referring to "tabes dorsalis" (from the Greek for melt, liquefy); for Charcot this was "an outline" (von Romberg, 1851). The eponymous sign was clearly described: exaggerated imbalance when the eyes are occluded. In 1862, Charcot and Vulpian published three articles on this disease (Charcot and

Vulpian, 1862a, Charcot and Vulpian, 1862b; Charcot and Vulpian, 1863), which Armand Trousseau (1801–1867) had featured in three memorable lessons in January 1861 (Trousseau, 1861). With new accuracy, Charcot and Vulpian described the searing pain, "like being struck by lightning", that characterised this illness; they also described its modes of progression and the detailed histopathological exams of the entire nervous system, demonstrating damage to the posterior medullary tracts and examining the possibility of initial micro-arterial damage. They covered the pathophysiology of "gastric attacks" occurring in this disease by "damage to the posterior tracts and atrophy of the posterior roots" (Charcot, 1872–1873) as Hippolyte Bourdon (1814–1892) had already reported in 1861 (Bourdon, 1861), before Georges Delamare (1842–1911) did so in this thesis defended on 25 August 1866 (Delamare, 1866), then Paul Dubois in his thesis in 1868 (Dubois, 1868).

In 1868, Charcot described arthropathy in progressive locomotor ataxia (Charcot, 1868). At first contested, this clinical picture, which he enriched with photos and anatomical items held at the Dupuytren Museum, gradually gained ground. Invited to the International Medical Congress in London in 1881, he achieved a triumph with his presentation entitled Demonstration of arthropathic affections of locomotor ataxia. James Paget (1814–1899), the president of the congress, brought into common usage the eponyms Charcot foot and Charcot arthropathy, which since then have been used to name arthropathy of neurological origin, like that complicating diabetes.

Multiple sclerosis

In addition to the clinical picture of paralysis agitans (Parkinson's disease), Charcot wrote the seminal description of a new pathology, multiple sclerosis, by differentiating between the two clinical pictures based on the type of shaking. Charcot wrested multiple sclerosis from the chaos of the various forms of "chronic myelitis" based on its histopathological specificity, explained during a memorable lesson on 01 September 1868 recorded by Bourneville, his resident at the time: "I have briefly examined its fortune [the word sclerosis] and, in my opinion, it corresponds to natural morbid types, characterised by marked anatomical lesions and a set of symptoms sufficiently determined to lead to an accurate diagnosis" (Charcot and Bourneville, 1868). Before this, Vulpian had presented on 09 May 1866 a "note on multiple sclerosis of the spinal cord" (Vulpian, 1866) to the French Medical Society of the Paris Hospitals; then it was Charcot who presented on 14 March 1868 to the French Society of Biology "anatomical parts relative to a case of generalised multiple sclerosis in the brain and spinal cord" (Charcot, 1869). Henry Liouville (1837–1887), the first husband of Marie Durvis (1854–1936), who was Mme Charcot's eldest daughter, published in the same year an extensive, detailed study on multiple sclerosis with Vulpian's help (Liouville, 1869). The microscopic study showed the disappearance of the myelin sheath with the conservation of "cylindraxes", surrounded by a fibrillary proliferation. Charcot highlighted that, in contrast with the rest tremor of Parkinson's disease, in multiple sclerosis the patients developed predominantly an action tremor, clustered with signs of weakness, sensory abnormalities, visual defects, and frequently, nystagmus.

Amyotrophic lateral sclerosis, or Charcot disease

One of Charcot's lessons given in June 1868 was published in 1869 with the help of Alix Joffroy (1844–1908), his resident that year. It focused on "two cases of progressive muscular atrophy" (Charcot and Joffroy, 1869), the first milestone in the seminal description of amyotrophic lateral sclerosis, or Charcot disease. The 1850 dissertation of François-Amilcar Aran (Aran, 1850), and the autopsy published in 1853 by Jean Cruveilhier (1791–1874) (Cruveilhier, 1852–1853), were Charcot's initial guides along with infantile acute spinal paralysis (future poliomyelitis, or Heine-Medin disease) (Charcot and Joffroy, 1870). He compared their descriptions and his own findings: "In the grey matter, these lesions occupy almost exclusively the anterior horns, where they are indicated especially by deep atrophy and even by the disappearance of many large nerve cells"; this explained the muscular atrophy that caused paralysis and muscular fasciculations. Simultaneously, he observed sclerosis in the white matter of the anterolateral tracts along much of the spinal cord's height, which he associated with contraction.

In 1870, Charcot revisited the initial 1860 publication of Duchenne de Boulogne (Duchenne de Boulogne, 1860), adding "glosso-laryngeal paralysis" as a clinical form localised in the brain stem that had the same pathology (Charcot, 1870). The Franco-Prussian War interrupted his publications, to which he did not return until 1874. In the complete works published in 1894, the complete description of amyotrophic lateral sclerosis was the focus of three lessons (XI, XII, XIII) that brought together the clinical picture, the various localisations, the progressive forms, and the pathological anatomy (Charcot, 1894). The search for the aetiology was postponed, which it continues to be today.

When he coined the term "amyotrophic lateral sclerosis", Charcot associated the clinical and anatomical aspects: amyotrophy, i.e., grey matter involvement; and lateral sclerosis, i.e., white matter damage. He wisely pointed out to his students, "I do not think that elsewhere in medicine, in pulmonary or cardiac pathology, greater precision can be achieved. The diagnosis as well as the anatomy and physiology of the condition 'amyotrophic lateral sclerosis' is one of the most completely understood conditions in the realm of clinical neurology" (Charcot, 1887–1888).

Muscle pathology

"The principle characteristic of M. Charcot's studies on the pathology of the spinal cord was to make two entities walk in step, so to speak, by the close connection between clinical practice and pathological anatomy, in light of physiological knowledge"; thus began what Charcot wrote in 1883 in his Exposé des titres scientifiques (presentation of scientific titles), introducing his "theory of localisations in spinal disease" (Charcot, 1883). Charcot described the pyramidal tract (mobility) by studying degeneration secondary to lesions on its pathway; similarly, he predicted lesions of the lateral tracts, "symmetrical fascicled sclerosis"; for what he temporarily named "spasmodic dorsal tabes". This was not tabes but "spastic spinal paralysis", or "Erb-Charcot paralysis", now recognised as one of the forms of hereditary spastic paraplegia (Strümpell-Lorrain disease) (Walusinski, 2020). Charcot's anatomicopathological studies on the spinal cord in progressive locomotor ataxia and all his additional research enabled him to elucidate medullary physiology as no one before him in France had done. In addition, his research allowed him to establish, for the first time in neurological pathology, the precise anatomical location of a clinical problem while the patient was still alive.

Cerebral localizations

Charcot revisited the anatomoclinical method, so fruitful for studying the spinal cord, to elucidate a contemporary issue from 1875 onward: "cerebral localisations" (Gasser, 1994). Whereas Pierre Flourens (1794–1867), in his criticism of phrenology in 1842 (Flourens, 1842), concluded that the brain functioned holistically, Jean-Baptiste Bouillaud (1796–1881), in keeping with Franz-Joseph Gall (1758–1828), localised language in the frontal lobes (Bouillaud, 1825), then Paul Broca (1824–1880) in the basal region of the third left frontal gyrus in 1861 (Broca, 1861). In 1870, Eduard Hitzig (1838–1907) and Gustav Fritsch (1837–1927) showed that localised cortical electric stimulation determined the movements in the contralateral side of the body (Fritsch and Hitzig, 1870). David Ferrier (1843–1928) then confirmed these data in 1874 (Ferrier, 1874). In 1875, Charcot undertook a series of twenty-seven lessons on cerebral localisations: "The encephalon does not represent a homogeneous, unitary organ, but rather an association, or, if you prefer, a federation made up of a number of diverse organs. Each of these organs could be physiologically linked to distinct properties, functions, and faculties. Once the physiological properties of each of these parts is known, it should be possible to deduce the pathologic situation, since this would be only a modification, mild or marked, of the normal state, without the intervention of new law" (Charcot, 1876). Charcot set out to show the relevance of the anatomicopathological examination of lesions found in the cortex after paralysis or partial convulsions. In 1883, with his resident in 1876 Albert Pitres (1848–1928), Charcot updated the data that had been published in France and abroad since his first lectures at the end of the preceding decade; the resultant book would remain a reference for several years (Charcot and Pitres, 1883). Charcot localised in this work the cortical motor area: the paracentral lobule and the upper two thirds of the ascending convolutions for both contralateral limbs and the lower third of the ascending convolutions for the lower part of the face. He established that cortical lesions in

the motor area and those in the internal capsule, and those alone, determined secondary spinal degeneration. In contrast, his conjectures delimiting the cortical areas of sensitivity were not all validated later on (Jeannerod, 1994).

On 18 December 1875, at the meeting of the French Society of Biology, Charcot demonstrated how he was able to argue against those who tried to contradict his propositions. As he put it, "I do not think that experimental physiology can be considered, in and of itself, capable of revealing the functions of the various departments of the nervous system". To which Brown-Séquard replied, "I unfortunately disagree with M. Charcot regarding the role of experimental physiology . . . Cerebral localisations, as they are currently conceived of, are false and others must be established". For him, all lesions had repercussions at a remove, which could vary for the same primary lesional localisation. Charcot replied in turn, "I cannot consider the observations put forth by M. Brown-Séquard as convincing. Pathological anatomy is so incomplete that it is impossible to base anything on such descriptions. All these observations can be contested from other points of view, and there would be no end to the lacunae were I to try to illustrate them all" (Charcot and Brown-Séquard, 1875).

Case of aphasia

Aphasia is a typical pathology giving rise to research and theories about localisation. Charcot's first personal study presenting the case of a hemiplegic aphasic was published in July 1863 (Charcot, 1863). His patient had a lesion occupying part of the temporal lobe and the insula, with no apparent lesions in the third frontal gyrus at her first examination. Charcot concluded: "The seat of the central organ of articulated language, if such an organ does exist, remains to be determined". In 1875 Charcot helped his 1867 resident, Raphaël Lépine (1840–1919), to write his "agrégation" thesis (to become an associate professor) on "localisation in cerebral disease". In this compilation study summarising the state of knowledge at the dawn of the last quarter of the nineteenth century, Lépine reiterated the doubts about the localisation of language proposed by Broca, notably arguing that the insula had not been taken into account.

It was only twenty years later, in 1883, that Charcot took a real interest in aphasia and covered it in five Friday lessons, published in Le Progrès médical following their transcription by Charles Féré (1852–1907) (Charcot and Féré, 1883). Pierre Marie revised and completed them in 1885 (Charcot and Marie, 1883).

Charcot presided over the jury for two theses on aphasia. The first was that of his Russian student Nadia Skwortzoff (1852–?), defended on 05 April 1881 and covering cases of aphasia with "blindness and verbal deafness", which she compared to cases already reported by Carl Wernicke (1848–1905), Adolf Kussmaul (1822–1902), Otto von Kahler (1849–1893), and Arnold Pick (1851–1924).

The second thesis, defended on 09 January 1885, was that of Antoine-Désiré Bernard (1853–1888), Charcot's resident in 1883 (Bernard, 1885). In his thesis, Bernard condemned the illusion of his times whereby "to say aphasia in the language of Trousseau was to say Broca's gyrus, making Trousseau the first guilty party in the serious confusion that followed. Everybody was guilty after him, despite whatever effort Broca made to avoid conflict". He himself presented studies identifying the existence of sensory aphasia based on the publications of Wernicke and Kussmaul. He "most disagreeably" refuted the objections to his work, made notably by Louis-Lucien Dreyfus-Brisac (1849–1903) (Dreyfus-Brisac, 1881), but lauded Charcot's 1883 and 1884 lessons, which he reused extensively. He reproduced Charcot's famous explanatory drawing, "the bell", which appeared for the first time in a book by Gaetano Rummo (1853–1917) (Rummo, 1884). Basing his deduction on the research of Henry Duret (1849–1921) about the distribution of arterial branches of the middle cerebral artery, Bernard was the first to hit upon an anatomoclinical relationship between the localisation of cerebral infarct, the location of the arterial occlusion, and the type of aphasia (Walusinski and Courrivaud, 2014).

The literary style of his thesis is particularly refined and full of humour. For example, after noting that Charcot gave his first observations of aphasiacs to Broca, he added ironically, "in order that Broca be credited for the discovery and held responsible for the error". During his residency, Bernard reported on one of Charcot's lessons describing the first case of loss of mental imaging,

or visual agnosia, which, for the Master of La Salpêtrière, meant that memory was not singular, but rather comprised "partial memories" (Charcot and Bernard, 1883).

Faced with the complexity of the various types of aphasia and the insufficiency of the anatomoclinical method to explain them all, Charcot turned to psychology with the help of Théodule Ribot (1839–1916): "The function or functions that allow us to communicate with our fellow man must be associated with the most advanced operations of our central system. Properly speaking, although these functions are not fully part of intelligence itself, under normal and pathological states, they certainly have the most decisive influence on the exercise of intelligence" (Charcot, 1892). The creation of the French Society of Physiological Psychology under the auspices of Ribot and Charcot was probably the result (Mercier, 1897). Ribot's presence in the painting of André Brouillet (1857–1914), Une leçon clinique à La Salpêtrière, bears witness to this collaboration (Walusinski, 2021).

Hystero-epilepsy

Faced with the imminent collapse of the building that housed the Sainte-Laure ward, the hospital administration decided in 1869 to transfer the epileptics and hysterics treated by Louis Delasiauve (1804–1893) to Charcot's department. Bourneville, Charcot's resident in 1868, was responsible for treating these patients when he was a resident under Delasiauve. He initiated Charcot into examining these poor women, who experienced such a variety of crises. But also previously, in 1869, Charcot had attended the Congress of the British Medical Association in Leeds and listened to the presentation of John Russel Reynolds (1828–1896) entitled Paralysis and other disorders of motion and sensation dependent on an idea. He would often cite this article during his later lessons (Reynolds, 1869); Reynolds probably played a decisive role in his new commitment to studying hysteria. From 1870 to 1893, Bourneville, the resident-artist Paul Richer (1849–1933), Georges Gilles de la Tourette (1857–1904), and numerous other students represented by Brouillet, would follow in Charcot's footsteps to explore and describe hysteria, notably through hypnosis. The fruitless search for a cerebral lesion causing the disturbances gradually, over twenty some years, led Charcot to substitute a psychological aetiological paradigm for a lesional one, which had been in place for a long time. This new model improved neurological clinical examination, which was the basis of neurological semiology (analysis of tendon and cutaneous reflexes, Babiński sign, etc.). This gives Charcot's study of hysteria legitimate recognition, denied for too long.

A meeting with Pierre Janet (1859–1947) in 1885 was the most notable event in Charcot's last productive period, leading to the creation of a "laboratory of psychology" in 1890 within the Clinic of Nervous System Diseases, the first milestone in the brilliant career of one of Charcot's last students. Janet was the first to assert a link between the subject's lived experience and "a traumatic event", which generated his understanding of hysteria and led him to this definition: "Hysteria is a set of diseases by representation". This foundational work cannot be summarised here, but it should be noted that Janet introduced the following concepts: "doubling of personality" and "shrinking of the field of consciousness", along with subconsciousness and dissociation. These ideas can be found in the conclusion to his thesis, with Charcot presiding over the jury, defended two weeks before the latter's death: "Hysteria is a form of mental disintegration characterised by the tendency toward permanent and complete doubling of personality"; also: "A banished idea, like a psychological parasite, causes all accidents of physical and mental diseases" (Janet, 1893) In 1886, Janet did not yet have the eminence in Charcot's orbit that he would acquire by 1890, which probably explains his absence in Brouillet's painting.

In conclusion

This survey of Charcot's immense oeuvre cannot be exhaustive. The book by Christopher Goetz, Michel Bonduelle and Toby Gelfand, Charcot Constructing Neurology, remains the indispensable reference for a more detailed, in-depth look at the information presented here (Goetz et al, 2005).

In his homage to Charcot on 25 May 1925, at the centennial of the Master's birth, Babiński concluded his speech with terms that perfectly situate the oeuvre that originated at La Salpêtrière: "To cut neurology off from Charcot's acquisitions would make it unrecognisable. The truth is that

in neurology departments, not a day goes by when we do not apply the notions he introduced; his way of thinking is always with us, always present" (Babiński, 1925).

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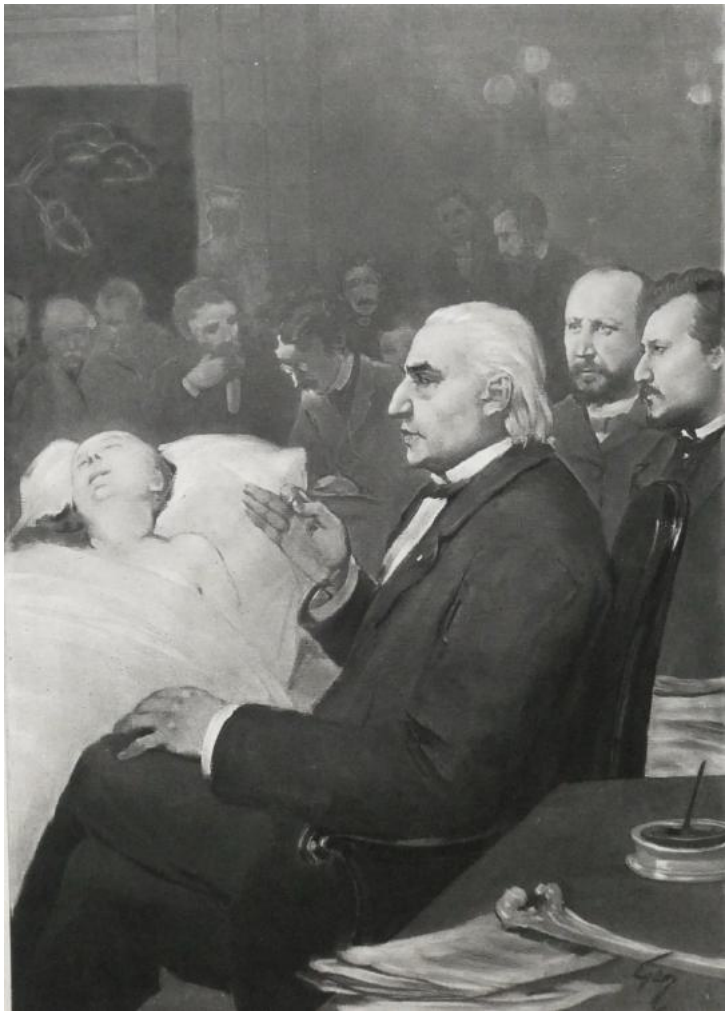

Charcot Teaching
On the right, Paul Richer (1849-1933) and Adolphe Dutil (1862-194?)
Drawing by Jean Geoffroy (1853-1924)
In Léo Claretie (1862-1924) L'université moderne
Paris : Charles Delagrave 1892.

Tuesday July 1,2025
9 h 30

Jean-Martin Charcot (1825-1893), his life, his works
Olivier Walusinski

Jean-Martin Charcot (1825–1893), son of a Parisian craftsman, went on to a brilliant university career and worked his way to the top of the hospital hierarchy. Becoming a resident in 1858 at the women's nursing home and asylum at La Salpêtrière Hospital, he returned there in 1868 as chief physician. Observing more than 2,000 elderly women, he first worked as a geriatrician-internist, leading him to describe thyroid pathology, cruoric pulmonary embolism, and so forth.

To deal with the numerous nervous system pathologies, he applied the anatomo-clinical method with the addition of microscopy. In less than around ten years, his perspicacious clinical eye enabled him to describe Parkinson's disease, multiple sclerosis, amyotrophic lateral sclerosis, tabetic arthropathy, and to identify medullary localizations, for example. Already aware of functional neurological disorders, at that time referred to as hysteria and so frequent to this day, Charcot used hypnosis to try to decipher the pathophysiology. His thinking gradually evolved from looking for lesions to recognizing triggering psychological trauma. This prolonged search, misinterpreted for years, opened the way to fine, precise clinical semiology, specific to neurology and psychosomatic medicine.

Charcot knew how to surround himself with a cohort of brilliant clinicians, who often became as famous as he was, notably Pierre Marie (1853–1940), Georges Gilles de la Tourette (1857–1904), Joseph Babiński (1857–1932), and Pierre Janet (1859–1947). This cohort and the breadth of Charcot's innovative work define what is now classically called the "*Salpêtrière School*".

Tuesday July 1, 2025
10h

The landscape of scientific and medical research at the time of Jean-Martin Charcot
Denis Guthleben

In the second half of the 19th century, the organization of scientific and medical research sparked constant debate in France. When Jean-Martin Charcot began his work at the Salpêtrière, complaints were voiced about the “great poverty of the laboratories” throughout the country. Poorly equipped, heated, lit, and ventilated, these laboratories had become “the tombs of scientists”, as described by Charcot’s contemporary Claude Bernard – who nevertheless worked at the prestigious Collège de France in Paris! According to Louis Pasteur, the neglect of science and the disinterest in the fate of scientists during the reign of Napoléon III were a major factor in explaining the ultimate downfall of the Second Empire: Pasteur believed that the "misfortunes of the Nation" in 1870 were "painfully linked to the weakness of our scientific organization". Meanwhile, wrote Pasteur, “Germany expanded its universities, surrounded its scholars and doctors with honor and respect, and established vast laboratories equipped with the best working instruments”.

From its inception, the young Third Republic responded to the call of scientists and aimed to make science one of its building blocks. Resources for scientific and medical institutions increased, and the faculties of literature, science, and medicine benefited from new facilities that allowed them to invest in much-needed equipment. Jean-Martin Charcot’s growing recognition across Europe occurred within this new context. It was his friend Léon Gambetta, known as the "traveling salesman of the Republic," who presented him in 1882 with the first chair of clinical diseases of the nervous system created in France—and indeed in the world. Ultimately, Jean-Martin Charcot conducted his work in an environment of significant changes in scientific and medical research, characterized by debates and reforms that remain strikingly relevant today.

Tuesday July 1, 2025
11 h

"*Si je ne me trompe pas*"
Charcot's neurological legacy in the 21st century
Christopher G. Goetz

Charcot often used the adage, "*Si je ne me trompe pas*" ["If I am not mistaken"] to place special emphasis on a teaching point of lasting value. This study considers three core themes of Charcot's research and their retained pertinence to 21st century neurology: the anatomo-clinical method; neurological reliance on incorporated scientific discoveries from other fields; heredity as a fundamental etiological basis for neurological disorders. Charcot's Leçons du mardi, Œuvres Complètes, and primary documents from the Bibliothèque Charcot are analyzed relative to their pertinence to contemporary neurology with an emphasis on examples from Movement Disorder neurology.

In regard to the anatomo-clinical method, although new tools and technologies are involved, 21st century neurology remains firmly anchored in Charcot's discipline. Modern scanners and biomarker research studies incorporate the Charcot approach of linking clinical signs with anatomical lesions, whether cellular, subcellular or molecular. Regarding neurology's need for a constant infusion of discovery from other scientific fields, Deep Phenotyping and multidimensional clinical research laboratories that typify modern neurological centers worldwide directly echo the centralized, Charcot-based approach. Whereas his patient units were supported by ancillary pathology, photography, physiology, and gait laboratories, the same divisions exist today and are now amplified with new technologies and biomarker wings. Finally, Charcot's reliance on hereditary explanations for neurological disorders finds a renewed emphasis in 21st century neurology. His arguments relative to "similar" and "dissimilar" hereditary transmission", sometimes rebuked after his death, find new credibility as scientists challenge simplistic genetic analyses focused only on "one genotype/one phenotype" considerations.

In these three domains, among others, *Charcot ne s'est pas trompé* and has left a heritage of vibrant neurological study, both as a conceptual framework but also as a collection of neurological observations that still anchor the field 200 years after his birth.

Tuesday July 1, 2025
11 h 30

Charcot's contribution to movement disorders

Carlos Henrique F. Camargo, Hélio A. G. Teive

Jean-Martin Charcot (1825-1893), regarded as a foundational figure in modern neurology, made significant advancements in understanding movement disorders. His work defining clinical features of Parkinson's disease (PD), such as bradykinesia and muscle rigidity, marked a departure from the muscle weakness previously emphasized by James Parkinson (1755-1824). Charcot, along with Alfred Vulpian (1826-1887), was instrumental in coining the term "*maladie de Parkinson"* in 1862, transitioning from the earlier term "*shaking palsy*."

Charcot's research extended to tremors, particularly noting that tremors in multiple sclerosis (MS) patients were distinct from those caused by mercury poisoning and hysteria. He observed that MS tremors occur during activity and intensify with effort, in contrast to PD tremors, which are present at rest and during activity but do not increase with action. His pioneering use of anticholinergic treatment for managing tremors was a significant leap in the field, enlightening us about his innovative approach.

In the realm of chorea, although Charcot enhanced their understanding, he failed to distinguish Sydenham's chorea from Huntington's disease (HD). In 1884, he tasked his student, Georges Gilles de la Tourette (1857–1904), with organizing the study of choreas. This work led to the initial understanding of tics, termed "*la maladie de tics convulsifs*," which Charcot later renamed "*Gilles de la Tourette syndrome*." Charcot also contributed to describing "*idée fixes,"* manifestations of obsessive-compulsive disorder observed in patients with Tourette syndrome.

Furthermore, Charcot explored ataxias, collaborating with Vulpian in 1862 to correlate clinical symptoms with specific spinal lesions in tabes dorsalis, characterized by sclerosis of the spinal cord's posterior columns and atrophy of the posterior spinal roots. His research extended to Friedreich's ataxia, distinguishing the spinal lesion locations from those caused by syphilis and cerebellar ataxias.

This rich legacy underscores Charcot's enduring impact on neurology, particularly in movement disorders.

Tuesday July 1, 2025
12 h

Charcot's contributions to the understanding of ischaemic stroke

Jan van Gijn, Marie-Germaine Bousser

Several influences led Charcot to take an interest in vascular pathology. During his residency under Eugène Cazalis (1808-1883) at La Salpêtrière in 1852, he observed frequent cases of chronic gangrene in the lower limbs. He was also struck by the number of patients at La Salpêtrière suffering from hemiplegia. Learning of the work published in 1847 by Rudolf Virchow (1821-1902) on thromboembolism, he was able to validate it through his own clinical and anatomopathological observations. In 1744, Gerard van Swieten (1700-1772) may have foreseen the cardioembolic mechanism in comments he made on the work of Herman Boerhaave (1668-1738). Charlemagne-Joseph Legroux (1798-1861) explicitly formulated the embolic theory in his 1827 thesis, presided over by the surgeon Guillaume Dupuytren (1777-1835), but he did not achieve the same posthumous fame as Virchow for this pathophysiological demonstration.

Tuesday July 1, 2025
14 h

Charcot's erroneous double-semi decussation scheme for the retinocortical visual pathways

Douglas J. Lanska

Jean-Martin Charcot, often lauded for his seminal contributions, is seldom critiqued for his blunders. One such blunder was his double-semidecussation scheme for the retinocortical visual pathways, proposed in 1875 to explain, on neuroanatomic grounds, cases of hysteria that manifest hysterical amblyopia accompanied with ipsilateral hemianaesthesia. Charcot's scheme was inconsistent with the older, broadly correct scheme of Prussian ophthalmologist Albrecht von Gräfe.

Charcot failed to perform clinicopathologic correlation studies. Charcot's analysis relied on a series of mistaken conclusions he made in conjunction with Swiss-French ophthalmologist Edmund Landolt:

1. only an optic tract lesion could produce a homonymous hemianopsia;
2. cerebral lesions, if they ever produced homonymous hemianopsia, did so by secondary effects (eg, pressure) upon the optic tracts;
3. damage to the cortical projections from the lateral geniculate produces a crossed amblyopia.

Challenges to Charcot's theory came from within France by 1880. By 1882, Charcot recognized that his scheme was erroneous, and he approved a thesis by his pupil Charles Féré that reverted to Gräfe's scheme with an ill-conceived modification to accommodate Charcot's concept of hysterical cerebral amblyopia.

A critique by American neurologist Moses Starr in 1884 argued for Gräfe's scheme and refuted Charcot's erroneous scheme and its subsequent derivatives.

Tuesday July 1, 2025
14 h 30

Charcot identifies and illustrates amyotrophic lateral sclerosis.
Danielle Seilhean

Jean-Martin Charcot described what he called amyotrophic lateral sclerosis in his 12th and 13th lessons published in 1873 by Bourneville. He distinguished the symptoms that were related to the lesion of the anterior horn of the spinal cord and those that were due to the degeneration (that he named "sclerosis") of its lateral column.

He thought that "inflammation" progressed from the lateral column to the anterior horn (but the term inflammation is not to be taken in the current meaning): the lesion of the anterior horn was thus "deuteropathic".

An album containing drawings made by Charcot is kept in La Salpêtrière Neuropathology Department. Four drawings are pasted on one of its pages, showing the degeneration of the pyramidal tract. They constitute the original of the engravings illustrating Charcot's 12th lesson. The illustration of the fascicular atrophy of the adductor pollicis presented in the album does not appear in the lessons, even though this alteration is widely discussed and linked to the lesion of the anterior horn, which was supposed to ensure the "nutrition" of the muscle. The technique used by Charcot and his interpretation of the microscopic pictures, as exposed in his lessons, are discussed.

Tuesday July 1, 2025
15 h

The peripheral nerve: a neglected topic in Charcot's neurological work

Laurent Tatu, Julien Bogousslavsky

Jean-Martin Charcot (1825–1893) did not show much interest in the peripheral nervous system and its associated pathologies. The main explanation for this is likely that the anatomical concept of the peripheral nerve did not fit well with his ideas about nervous system disorders.

In his dismantling of progressive muscular atrophies, he found it difficult to place the peripheral nerve within his classification of disorders; it appeared to be an exception to his theories. Even the pathology that he described in 1886 with Pierre Marie (1853–1940), at the same time as Henry Tooth (1856–1925), and which is now known as Charcot-Marie-Tooth neuropathy, was considered by Charcot to be a potential myelopathy.

Charcot, like other physicians, paid little heed to the observations made by Louis Duménil (1823–1890) to support the existence of primitive damage to the peripheral nerve. He refused to believe that peripheral nerves could deteriorate independently, except in cases of traumatic or compressive damage or prior lesion of their trophic centers.

Charcot approached peripheral nerve pathologies through two indirect routes: *amyotrophies* not explained by spinal or muscular damage, and the trophic cutaneous consequences of what he called *névrites* (neuritis), the lesional site of which remains debated. It is noteworthy that Charcot's approach to peripheral nervous system disorders differed from that of other neurologists of the same time.

Augusta Dejerine-Klumpke (1859–1927) in France was more precise than Charcot in her anatomical and clinical descriptions, and Hugo von Ziemssen (1829–1902) in Germany made effective use of electrodiagnostics. Charcot supported the electrical work of Guillaume Duchenne de Boulogne (1806-1875), whom he sometimes presented as one of his mentors. However, there was no real collaboration between the two men. Duchenne did not succeed in his attempt to convince Charcot of the importance of peripheral nerve system investigations.

The German physician Wilhelm Erb (1840–1921) developed electrodiagnosis by galvanic and faradic currents. Charcot never made use of Erb's electrological advancements. With his electrophysiologist Romain Vigouroux (1831–1911), he used medical electricity only for electrotherapy in hysteria.

Wednesday July 2, 2025
16 h

Jules-Bernard Luys and Charcot: the impossible match

Roger Dachez

In the mid-nineteenth century, Jules-Bernard Luys (1828-1893) was one of the pioneers of microscopy and its application to the detailed study of the nervous system. A talented neuroanatomist and author of a profoundly innovative *Iconographie des centres nerveux* (1875), unanimously acclaimed as such, he also had a career as an alienist. From 1864 onwards, he was director of the *Maison de Santé* Esquirol in Ivry-sur-Seine, near Paris, where a new approach to the treatment of mental illness was being implemented. He also ran the "small" medical department at the Salpêtrière hospital - the "large" department was run by Charcot. He ended his career at the Hôpital de la Charité.

In the early 1880s, while Charcot and the Salpêtrière School were trying to theorise about hysteria, he began to conduct a series of experiments on hysterical patients, under hypnosis. Luys tried to demonstrate the possibility of transferring symptoms from one patient to another, using glass tubes containing various substances. These experiments were carried out with the active support of a young doctor, Dr Gérard Encausse (1865-1916), who at the same time was a leader in the occult movement that was very much in vogue in Paris at the time, and known in this milieu as the *'Papus Magus'*.

The medical community was deeply disturbed, and a report by the Académie de Médecine, of which Luys was a member, concluded that there had been serious methodological errors, forever tarnishing his memory. Faced with Charcot, whose career had intersected his own many times over the course of almost 40 years, Luys had tried, but in vain, to build another school: a conflict of personality, of doctrine, of power?

The case of Luys provides an opportunity to take a fresh look at the unique relationship between medicine, science, magnetism and fascination with the strange in the last quarter of the nineteenth century. Various epistemological and scientific psychological considerations can be drawn from this.

Tuesday July 1, 2025
16 h 30

Jean-Martin Charcot: from morbid anatomy of cerebral hemorrhage to detailed description of lymphatic system in the brain

Eglė Sakalauskaitė-Juodeikienė

Hippocrates defined apoplexy by its catastrophic presentation: a sudden loss of consciousness, motion and sensation, and presented the disease as a result of the imbalance of the four humours. When autopsies became relatively common in the 16th century, the humoral theory of apoplexy began to be questioned, and it was recognized that some causes of diseases could be found in solid organs.

While Vilnius physician Joseph Frank (1771–1842) described morbid anatomy of apoplexy (softening, liquation or blood in thalamic area, tubercles in corpus striatum, pathological cavities in the depths of hemispheres, aneurysms, rupture of cerebral arteries, blood in the spinal canal), the novel theory of cerebral softening was presented by Léon Rostan (1790–1866) in the treatise *Recherches sur le ramollissement du cerveau* in 1819.

However, perception of apoplexy has changed dramatically under the leading professor of neurology of the time, Jean-Martin Charcot (1825–1893), during his research at Hôpital de La Salpêtrière. During this talk, I will present how Charcot in his "*Clinical lectures on senile and chronic diseases*" (translated by W. S. Tuke, 1881) defined an apoplectic attack, how he described clinical presentation of this devastating disease, perceived etiology and morbid anatomy of cerebral hemorrhage (the role of miliary aneurisms and diffuse periarteritis) in particular, as well as how he presented peculiaries on the blood vessels and "lymphatic sheats" of the brain. I will also present how these consepts led neurologists to better understanding of etiopathogenesis of intraceberbral hemorrage nowadays, and discussions about controversies of anatomy and functions of Virchow-Robin spaces.

Furthermore, I will speculate that Charcot's and his contemporaries' works may have inspired discovering glymphatic system – a unique system of perivascular channels, promoting elimination of soluble proteins and metabolites from the central nervous system during deep sleep.

Tuesday July 1, 2025
17 h

Jean-Martin Charcot visionary of multiple sclerosis

Anne Boullerne

In 1862 Jean-Martin Charcot at 37 years-old started as clinician at La Salpêtrière, the largest hospice in Europe averaging 5,000 beds, with mostly women affected by all types of diseases, when he encountered his first case of multiple sclerosis (MS). He was a workaholic, and with his friend and colleague Alfred Vulpian (1826—1887), had recently published in 1861 the first French account on *Paralysie Agitante* (Parkinson) where no lesion could be seen. Charcot expanded the anatomo-clinical method by systematically comparing diseases at histology level using a microscope. He also adapted his artistic skills to medical and scientific needs, among many other semiology innovations. With Vulpian, he developed in Salpêtrière laboratory state-of-the art histological methods on autopsy material. By 1865 they had found 2 more MS cases that spurred Charcot to give a new name by comparison to a different disease targeting lateral columns (Amyotrophic Lateral Sclerosis, ALS). In his 1865 article, Charcot named *sclérose en plaques* (patchy sclerosis), as opposed to ALS symmetrical lesions along entire spinal tracts. He presented the history of MS drawing citing Jean Cruveilhier, but also for the first time Robert Carswell atlas in connection with MS. In 1866, Vulpian wrote the first article centered on MS abundantly citing Charcot. Year 1866 was a turning point for MS, as Charcot servant Luc he had diagnosed with Parkinson died at La Salpêtrière. Oh surprise, Charcot found in her brain typical MS patchy lesions. In a strike of genius, Charcot differentiated the intention tremors in his servant from Parkinson constant tremors. Charcot then instructed his intern Leopold Ordenstein (1835—1902) to compare in his thesis side-by-side Parkinson and MS. Charcot published the key MS symptom of intention tremor in 1868 as first differential MS diagnosis. Year 1868 saw Charcot delineate MS nosology, minutely detailed histology, and a comprehensive history including the German school. Charcot was at the forefront of his time in histology, attested by being the first in France to use the term *myéline* (myelin), and in 1867 coining *névroglie* adapted from Virchow *Neuroglia*. Charcot was current and comprehensive on the literature in French, English and especially German, and cognizant of controversies around glia composition. Charcot believed that the *gangue conjonctive* (connective matrix, aka glia) proliferation and transformation into fibrillary bundles compressed and suffocated the myelin sheath, leading to its progressive thinning and complete disappearance until only the axon survived in plaques, unique to MS. Charcot changed his view only in 1885 when Joseph Babinski (1857-1932) showed cells directly phagocytosing myelin. Charcot as early as 1871 established MS symptomatology with cephalic and spinal symptoms. He went into a quest to weed out differential diagnosis plaguing neurology, pointing chiefly to Parkinson and locomotor ataxia most confused with MS. By 1880 Charcot had solidified MS demographics strikingly similar to today: gender imbalance toward women, and early adult onset including pediatric cases. He described frequent remissions, alas always temporary, which spurred him to suggest remyelination twenty years before Otto Marburg (1874—1948). He delineated MS susceptibility by living conditions in damp abodes or impressionable personalities but never heredity, and MS triggers by cold shock, physical fall or an infection. Charcot conceptualization and modernity created multiple sclerosis.

Wednesday July 2, 2025
9 h

Proof through Images: Art and Medicine According to Charcot
Jean-Claude Dupont

Images play a central role in Charcot's work. He utilized drawings and the novel medium of photography while simultaneously commenting on numerous works of art. How can we comprehend the integration of this iconographic work within his medical research? This paper aims to illustrate, through select examples, the coherence of the Salpêtrière's iconographic program and its deliberate detachment from aesthetic concerns. This use of images appears foundational to a truly retrospective form of medicine, expressing a desire to forge a triple alliance between history, art, and medicine in the pursuit of scientific truths

Wednesday July 2, 2025
9 h 30

Edvard Munch's Crisis in 1908 and French Medicine: his Doctors, Treatments, and Sources of Informations

Elisabetta Sirgiovanni, Stanley Finger

In 1908, Norwegian artist Edvard Munch, then aged 45, and already famous for The Scream and other paintings reflecting his tormented mental state, isolated himself for eight months in a private nerve clinic in Copenhagen. Munch's psychiatric history and his encounter with the leading figures of Danish psychiatry of the time, especially his psychiatrist Daniel Jacobson, offer an interesting lens to investigate the influences of Jean-Martin Charcot's lectures on Scandinavian psychiatry.

In our talk, we explore Daniel Jacobson and his mentor Knud Pontoppidan's connections to Paris and their affiliation to Charcot's views. We show how some of Munch's treatments, most notably his electrotherapy sessions, related to therapeutics and approaches used by Charcot and his team at La Salpêtrière. The materials we present show that Charcot's theories resonated not only in France but were also entertained in Scandinavian countries. Charcot's impact extended to notable individuals such as prominent nerve doctors, renowned artists, and writers in Scandinavia, showcasing the widespread recognition and adoption of his work in understanding neurological and what we would now consider psychiatric or psychological disorders.

Wednesday July 2, 2025
10 h

Jean-Martin Charcot and Alfred Vulpian, a lifelong friendship
Hubert Déchy

A mere five weeks separate the births of Jean-Martin Charcot (29 November 1825) and Alfred Vulpian (5 January 1826). They were both born on the right bank of the Seine River in Paris.

Charcot lost his mother at the age of 13, Vulpian lost his father at the age of 3. They both passed their internship exam in Paris in 1848 and worked at the hospital La Pitié, then at La Salpêtrière in different departments.

In 1853 each wrote his thesis: one to distinguish various forms of rheumatism, the other on the origin of cranial nerves using the microscope.

In 1860 they became associate professors of the Faculty of Medicine. At the Société de Biologie both lectured together. They were appointed as heads of departments at La Salpêtrière in 1861 and worked together for eight years. During this period, they described cases of "Paralysie agitante", already described in 1817 by James Parkinson (1755-1824) and not to be confused with multiple sclerosis which was defined by them somewhat later.

In 1862 they also worked on progressive locomotor ataxia. Vulpian (1826-1887) occupied the chair of pathological anatomy in 1867 but was replaced in 1872 by Charcot (1825-1893). The former however preceded him also to the Academy of Medicine and the Academy of Science. Charcot was to have as best man at his wedding in 1864 his friend Vulpian and Charcot's wife introduced to him Inès Mantoux (1836-1884), his future spouse in 1868. When Vulpian lay dying in 1887, his friend was there at his bedside, and soon after, he delivered his eulogy.

Wednesday July 2, 2025
11 h

The Stone of Madness
Charcot's interest in a copy after Pieter Bruegel sr. as referred to by Henry Meige

Peter Koehler

Jean-Martin Charcot (1825-1893) is known to have possessed interesting works of art, including a version of Jan Steen's *Marriage at Cana*. In 1899, his pupil and colleague Henry Meige (1866-1940) wrote that Charcot had been interested in a painting (after a drawing) by Bruegel, named *Les Arracheurs de Pierres de Teste.*

At the time the painting, it belonged to Charcot's contemporary Ernest Mesnet (1825-1898), who published a thesis on hysterical paralysis in 1852. When Charcot visited Mesnet, he showed quite some interest in the painting and offered him a considerable amount of money to buy it. The owner did not want to sell the painting, but promised to leave it to Charcot in his will. As Charcot died earlier than Mesnet, the painting went to the latter's heirs. In 1899 it was possessed by dermatologist dr. Paul de Molènes-Mahon (1857-1920). I will call it the Paris copy below. Meige asked Albert Londe (1858-1917) to make a photograph of the painting and published an article, in which he argued that the quality of the painting was such that it could not have been made by Bruegel.

In 1900 the surgeon Henri Gaudier (1866-1942) of the medical faculty of Lille, wrote about the original painting in the Museum of St. Omer. Comparing the Paris copy with the St. Omer painting, he concluded that the former was evidently of minor quality. Thereby, he confirmed Meige's opinion about the copy. In this article I will illustrate the St. Omer painting and describe Meige's and Gaudier's comments by comparing it with the black & white printed copy in Meige's 1899 article.

My study will look at Charcot as a collector of paintings, which is a minimally studied topic. He may have been interested in the Paris Bruegel copy for clinical and medical-historical reasons, rather than on esthetic grounds.

Wednesday July 2, 2025
11 h 30

Cogito or the modern self: the place for Descartes' skull in Paul Richer's drawings

Joao Tavares, Rosa Cipriano

In 1912, Paul Richer (1849,1933), Charcot's intern at La Salpêtrière and Professor at École des Beaux Arts, is called to examine a skull kept at the Muséum national d'histoire naturelle. The suspected identity was the philosopher René Descartes. Richer's surprising technique, superposing a drawing of the skull to the reconstructed head of the philosopher, based on a famous drawing by Franz Hals, appeared to reaffirm the identity of the wandering skull.

Descartes said in his Meditations that thought is the single attribute that cannot be separated from the subject, from this first person ME, I, I think, I am. This subject comes to light in his writings in an unprecedented way in the history of philosophy. The mind, as a symbol of thought, the skull, as a symbol of the mind, will not be confined to a grave. The skull traveled through centuries in the possession of several hands, inherited, auctioned, revered, like a catholic saint's relic. It was then brought back to the public sphere, and studied by science, having its identity reconstructed in Richer's hands.

What does this obsession with Descartes' skull tells us about Descartes' well known substance dualism? Even if assaulted by a malevolent God that would cast doubt on all material things, Descartes sustains he can never doubt himself as a thinking thing. Even if mind and body are indeed fundamentally different, they still interact. But how? This question that Descartes left unanswered seems to be the source of fascination behind this story and its actors. How did modern times change this relationship between body and mind? How did Charcot, and his colleagues, perceive these changes in the late nineteenth century?

This presentation, a dialogue between neurosciences and philosophy, wishes to rethink the implications of this fantastic story to the modern construct of personal identity.

Wednesday July 2, 2025
12 h

1852 a significant year in the life of Jean-Martin Charcot

Martin Catala

Jean-Martin Charcot (1825-1893) entered the hospice for elderly - women on January 15, 1852 for his fourth year of *internat*. This hospice contained 4,369 beds divided into several departments. There were two medical, one surgical and five lunatic services. On January 1, 1852, there were 2,663 residents at the hospice and 1,365 lunatic women. During the year, 1,406 people entered the hospice, 636 died.

Charcot chose to work in one of the two medical services recently directed by Eugène-Edmé Cazalis (1808-1882). Eleven other interns and five temporary interns were assigned to the services of this hospice. Charcot interacted with two of them in particular: Edouard Turner (1826-1892) and Etienne Trastour (1828-1896). During this year, Charcot collected 40 cases of "*goutte asthénique primitive*" in different buildings of the hospice. These cases, combined with the case observed at the *Charité* hospital the previous year, formed the corpus of his medical thesis which he defended in 1853. Charcot's activity was significant. He presented a case seen at the *Charité* hospital and a case from the *Salpêtrière*. He translated a German article and published a memoir. He sent organ samples from post-mortem dissection to Hermann Lebert (1813-1878) or Casimir Davaine (1814-1882) to have histological sections made. Indeed, at that time, Charcot did not have the necessary equipment to carry out such examinations at the hospice. These cases were the subject of several publications. Three other personal cases were published by him in 1854, 1855 and 1859 and two others published by colleagues (in 1869). Finally, he supervised the thesis of Spiridon Inglessis (1827-?) in which he used the microscope to study the cerebrospinal fluid of meningitis cases who died in the department. Thus, 1852 marked an important step for Charcot who discovered his future place of practice.

Wednesday July 2, 2025
14 h

The internal Image:
Mind and Brain in the Age of Charcot
Katrin Schultheiss

This lecture uses the work of French neurologist Jean-Martin Charcot (1825-1893) and his contemporaries to explore the central role played by internal or mental images in late nineteenth-century understandings of mental function. It argues that the assumed existence of internal images allowed scientists and clinicians of the time to integrate experimental psychological work on mental path- ologies such as memory dysfunction, hysteria, hypnosis, and hallucination into contemporary research on brain physiology.

The internal image—a general term that embraced concepts such as "*memory images*," "*sensory images*," and multi-faceted "*language images*"—linked older ideas about how memory, perception, and consciousness worked with new research on cerebral localization that dominated studies of the brain throughout Europe and the United States.

For practitioners of the new physiological (also called experimental) psychology, internal images offered a physiological mechanism for explaining how sensory perceptions are transformed into memories, how memories create perceptions of the self, how the brain generates ideas, and how all these processes can go awry.

Wednesday July 2, 2025
14 h 30

Charcot and Hallucinations: a Study in Insight and Blindness

Gilles Fénelon

Jean-Martin Charcot (1825–1893) showed little interest in mental disorders, the domain of nineteenth-century alienists. But hallucinations are not confined to the field of psychiatry, and Charcot, who had once tested the hallucinogenic effects of hashish in his youth, went on to describe hallucinations in the course of various neurological conditions, as just another semiological element.

Most of his or his disciples' writings on hallucinations can be found in his work on hysteria. Hallucinations and delusions were part of "*grand hysteria*" and occurred at the end of the attack (third or fourth phase). Hypnosis or chemical agents could also induce hallucinations. Charcot and his disciples did not go so far as to emphasize the importance of hallucinations when they evoked past trauma, especially sexual trauma.

Charcot's materialistic orientation led him and his disciples, especially D.M. Bourneville (1840–1909), G. Gilles de la Tourette (1857–1904), and the neurologist and artist P. Richer (1849–1933), to seek hysteria in artistic representations of "*possessed women*" and in the visions of nuns and mystics.

Finally, Charcot recognized the importance of hallucinations in neurological semiology, by means of precise and relevant observations scattered throughout his work. Preoccupied with linking hysteria to neurology, Charcot only scratched the surface of the possible significance of hallucinations in this context, paving the way for the work of his students Pierre Janet (1859-1947) and Sigmund Freud (1856-1939).

Wednesday July 2, 2025
15 h

Jean-Martin Charcot's Theater of the Mind: Acting Out and Working Through Trauma

Suzanne LaLonde

This talk proposes to enlarge our understanding of the concepts of trauma and traumatism through a re-evaluation of Jean-Martin Charcot's clinical practices to diagnose and treat patients suffering from traumatic hysteria at the Salpêtrière Hospital in Paris.

Three main arguments are advanced: The neurologist created a "*theater of the mind*" where patients suffering from traumatic hysteria could engage in a theater within a theater and plays within plays, terms from drama theory and illustrated through plays. It is also argued that Charcot's "*theater of the mind*" became a "*theater of care*"; the neurologist created a clinic where patients could "act out" and "*work through*" their trauma.

Finally, it is advanced that the acting-out and working-through processes translated into a unique form of catharsis, as they allowed patients to access memories through their psyche's backdoor. This talk aims therefore to paint a portrait of Charcot's clinical practice that is more humane and to inspire mental-health-care providers today to imagine novel interdisciplinary methods to diagnose and treat trauma survivors.

Wednesday July 2, 2025
16 h

Between Ball and Ballet: A. Joffroy, J.-M Charcot's favorite pupil, or the story of a switch between two chairs

Denis Tiberghien

By decree dated 2 August 1893, Alix Joffroy (1844-1908) was elected to the chair of mental illness and the brain at Saint-Anne Hospital in Paris. He was a former hospital intern (1868), a hospital physician (1879) and became associate professor in 1880.

Joffroy succeeded Benjamin Ball (1834-1893) who died on 23 February 1893. Six months later, on 16 August 1893, Jean-Martin Charcot (1825-1893) passed away at the age of 67. Neurology was in mourning.

Five days later, the newspaper *L'Éclair* announced that competitors for Charcot's succession were already known. The names mentioned were Georges Debove (1845-1920), Jules Dejerine (1849-1917) and Alix Joffroy. All were students of Charcot, except Dejerine.

Charcot himself had written Joffroy's report when he competed against Gilbert Ballet (1853-1916) and Valentin Magnan (1835-1916) for Ball's succession. After a year interim period by Édouard Brissaud (1852-1909), Fulgence Raymond (1844-1910) was elected to Charcot's chair.

An undated and unsigned letter suggests that Joffroy was considering requesting a change of chair. Referring to this letter will allow us to sketch a portrait and look back at the medical career of Joffroy, a pioneer in neuropathology on progressive muscular atrophy, acute anterior poliomyelitis and labio-glosso-laryngeal paralysis, in which he showed that the common and fundamental feature of these conditions is the involvement of the nerve cells in the anterior horn of the spinal cord.

Joffroy was one of Jean-Martin Charcot's closest pupils.

Wednesday July 2, 2025
16 h 30

Charcot and his pupils (Janet, Freud) and the birth of *Trauma*

Jean-Pierre Luauté

At the end of the 19th century, Jean-Martin Charcot (1825-1893), nolens volens, and his pupils, Pierre Janet (1859-1947) and most notably Sigmund Freud (1856-1939), created the concept of "*Trauma*" (or psychic trauma), the excessive extension of which today constitutes a major problem for public health and even civilization.

While alienists ever since William Cullen (1712-1790) and Philippe Pinel (1745-1826) had recognized the existence of "*neuroses*" or mental illnesses with no physical impairment and primarily due to "*moral causes*" ("*untoward life events*"), most of them did not accept that such causes were sufficient.

When Charcot was appointed to a ward at La Salpêtrière where severe forms of hysteria were concentrated, he refused to accept that they could be governed by anything other than physiological laws, and for some twenty years studied the condition from this angle. This "*neurological appropriation*", according to Gladys Swain (1945-1993), with its five families of models, was unsuccessful and in 1889, prefacing Janet's thesis, he admitted that "*hysteria is largely a mental disease*". This reversal stems from his intellectual rigor when he recognized that the origin of hysteria could be "*hystero-traumatic*": lesson of 17 January1888 with the observation of a pseudo paralysis of the hand in a woman who had given her child a slap. This famous observation can be compared with a similar case published the following year in Janet's thesis, but in both cases, there was no delay or symbolic transposition. This was the contribution of Freud, who referred to these phenomena as "*conversions*" and, from 1893 onwards with Josef Breuer (1842-1925), regarded hysteria in general as the result of an old personal trauma "repressed" by a defensive conflict. The existence of a predisposition, recognized by Freud, has now disappeared.

Wednesday July 2, 2025
17 h

Jean-Martin Charcot's clinic and modeling of the disease

Céline Chérici

Jean-Martin Charcot (1825-1893) attempted to define hysteria as both a non-gendered disease and a neurological pathology. Based on his clinical observations, made in the singular context of his consultations at the Salpêtrière hospital, he drew correlations between autopsy lesions and clinical records. The latter are extremely rich, as he often followed his patients from the moment they entered the hospital until their death.

We'll be looking at the discursive form of his clinical descriptions: what do the terms, descriptions and formatting of observations used in his lessons reveal about Professor Charcot's thinking? What role did the clinic play in his research?

Friday July 4, 2025
9 h

Charcot as a collector and critic of the arts: Relationship of the "Founder of Neurology" with Various Aspects of Art

Nicoletta Caputi

In his teaching, Jean-Martin Charcot (1825-1893) often used artistic representations from previous centuries to illustrate the historical developments of various conditions, particularly hysteria, mainly with the help of his pupil Paul Richer (1849-1933).

Charcot liked to draw portraits and sketches of colleagues during boring faculty meetings and students' examinations, caricatures of himself and others, church sculptures, landscapes, soldiers, etc. He also used this skill in his clinical and scientific work; he drew histological or anatomic specimens, as well as patients' features and demeanor.

His most daring artistic experiments were drawing under the influence of hashish. Charcot's tastes in art were conservative; he displayed little interest for the avant-gardes of his time, including impressionism, or for contemporary musicians, such as César Franck (1822-1890) or Hector Berlioz (1803-1869).

The pamphleteer Léon Daudet (1867-1942) described Charcot's home as a pseudo-gothic kitsch accumulation of heteroclite pieces of furniture and materials. However, he taught medicine not only as a science but also as an art, a style that has now been almost universally forgotten.

Friday July 4, 2025
9 h 30

Identifying Illness: Sketching Patients at Charcot's Salpêtrière

Natasha Ruiz-Gómez

Jean-Martin Charcot (1825-1893) pioneered the use of visual aids in his lectures. He deployed photographs, casts, diagrams, graphs, drawings, lantern slides—and even patients—to help the audience understand his innovative diagnoses, but that same visual imagery also informed his own conceptualizations of pathology.

Charcot, whom Sigmund Freud famously called a "*visual*", drew his patients and their autopsied organs while also encouraging the art-making of the many collaborators and protégés that worked with him at the Hôpital de la Salpêtrière in the last quarter of the nineteenth century. Their "*œuvres d'art scientifiques*" epitomize the entanglement of art and medical science at the Salpêtrière.

This presentation will consider drawings, some likely done by Charcot himself, contained in an album of the so-called Musée Charcot. These drawings show Catherine Aubel and Elisabeth Porreau, two of the five patients through which Charcot identified amyotrophic lateral sclerosis (ALS).

At the time, drawing was traditionally understood as the most immediate and intimate reflection of the artist's sentiment. While visual depictions of pathology could usefully help Charcot and the Salpêtrière School to chart the course of and understand the symptoms of nervous diseases, they could also prove enigmatic and confounding. The imagery produced in the sophisticated laboratories of the Salpêtrière under Charcot's auspices point to the challenges of "*fixing*" illness in the visual but also to the revelatory potential of those same images to show us Charcot and the Salpêtrière clinicians' interests, desires and even pleasures.

Friday July 4, 2025
10 h

Paul Richer, drawing and sculpting pathology in touch with his mentor Jean-Martin Charcot

Grégoire Hallé

Jean-Martin Charcot's artistic eye could not fail to notice the quality of the drawings in Henri Meillet's (1846-1914) thesis, which he chaired on March 9, 1874. The semiology of hand deformities is illustrated with his usual precision by Paul Richer (1949-1933). Thus began the association between the master of La Salpêtrière and an artistic medical student, a seamless collaboration that lasts until Charcot's death.

It began with Richer's thesis, illustrating with several hundred drawings the crisis of Hysteria major, as conceived by Charcot. Two further books, enriched with drawings and engravings, were published, *Les démoniaques dans l'art* in 1887 and *Les difformes et les malades dans l'art* in 1889, ensuring Richer's fame. Their aim was to demonstrate that, over the centuries, many pathologies considered divine punishment were merely representations of organic or functional pathologies, as was the case at La Salpêtrière and elsewhere.

Appointed head of the laboratory at La Salpêtrière, Richer deployed his art by proposing various teaching materials to help Charcot enrich his lessons. Among his various statuettes, the most famous is the *Parkinsonienne*.

Richer was one of the founding members of the *Nouvelle Iconographie de La Salpêtrière,* which he also illustrated with numerous articles between 1888 and 1900.

This talk will showcase many examples of the scientific and artistic collaboration between Richer and Charcot.

Friday July 4, 2025
11 h

André Brouillet (1857-1914) and his painting Une Leçon clinique à La Salpêtrière

Jacques Saint-Just

André Brouillet (1857-1914) is a familiar name attached to the Leçon clinique à la Salpêtrière. What is less known, and this is ironical, is that he was one of the most celebrated French painters of the 19th century and was internationally recognized during his lifetime, before disappearing into oblivion after the 1914 war. The object of this contribution is to describe briefly the career of the painter and to provide a few original relevant details concerning the genesis of the Leçon clinique à la Salpêtrière.

Although there are no written documents to prove it, it is likely that this large canvas (3 m x 4,25 m), executed in less than a year (1886), was commissioned by Jean-Martin Charcot himself. In his diary of May 1, 1887, Marcel Fouquier (1866-1961) describes its slow gestation: "*M. Brouillet's canvas, the painter's capital work, which for two or three years has been promised to us, so to speak, at every Salon, places him among the masters*". Charcot, in collaboration with his 1878 intern Paul Richer (1849-1933), the future professor at the École Nationale des Beaux-Arts, and his 1884 intern Georges Gilles de la Tourette (1857-1904), chose the personalities to be included. Charcot's affection for each of the people represented was one of the criteria for his choice. Proof of this is the fact that each of them was a regular guest at the Tuesday dinners given by the master and his wife at their beautiful home, the Hôtel de Varengeville.

Brouillet works on faces, some from life, after posing, others from photographs. Charcot himself is a prime example. Fernand Levillain (1858-1935), in his posthumous tribute to Charcot in *La Revue encyclopédique* of March 1, 1894, states: "*the artist copied without modification the print made by M. Londe, the skilful director of the photographic service at La Salpêtrière*". The composition chosen by Brouillet is academic, rather banal but nonetheless theatrical due to the pose of the patient, Marie alias '*Blanche*' Wittmann (1859-1912), apparently unconscious, held by Joseph Babiński (1857-1932). No doubt about it, *The Lesson* is a demonstration of hypnosis, "*that experimental neurosis*". For the contracture of Blanche's hand and wrist, Brouillet copied the model proposed by Paul Richer.

Visitors to the Salon (562 000 visitors in 1887) are captivated by such a close-up view of the reality of a lesson given by the famous master of La Salpêtrière. They enter the mysterious world of hypnosis, whose discoveries and forensic implications are regularly reported in the press. Let's correct an oft-repeated anachronism. When Brouillet painted this canvas in 1886, neither Pierre Janet (1859-1947) nor Sigmund Freud (1856-1939) had yet lifted the veil on the subconscious and unconscious.

For Charcot, this painting was the consecration of the Neurological School he had founded, but also a communication tool to extend its influence to doctors the world over.

Friday July 4, 2025
11 h 30

Charcot the dramaturg: relations between Charcot's practice & the worlds of performance, 1870s to the present

Jonathan Marshall

Jean-Martin Charcot (1825-1893) was famously slandered in *Le Figaro* in 1883 for practicing "cabotinage" or "hamming it up", the anonymous author comparing the neurologist to the then popular opera composer Richard Wagner (1813-1883), "the great musical ham". Charcot bridled at this accusation, but the author had a point.

In this presentation, I sketch the relationship between Charcot and the theatre, drawing attention to how as a lecturer and demonstrator, he developed a masterful *mise en scène* which effectively exaggerated features of the diseases he identified: performative caricature on might say, drawing on Henry Meige's (1866-1940) characterisation of Charcot ("Charcot artiste" 1898).

Charcot drew attention to the labor behind his work and his staging, acting in a way similar to how Bertolt Brecht (1898-1956) would later theorise the scientific dramatist should operate. Charcot was at once masterful and adept, but also a demonstrator who's powers could be learned and emulated by students and audiences. Despite this, Charcot was not able to control the reception of his lectures, particularly by laypeople, and in the years immediately after his death, his work inspired a range of theatrical practices, including the horror theatre of the *Grand Guignol* (in which several of his former students participated), Surrealism, parascientific séances, and even the performance of *Traumtänzerin* (trance dancers) on the stages of Europe.

Friday July 4, 2025
12 h

The private dislike of Charcot: Léon Daudet and Edmond de Goncourt

Julien Bogousslavsky

Biographies, monographies, articles and meetings devoted to the founder of modern neurology Jean-Martin Charcot are typically dithyrambic, if not hagiographic. It seems that the professional and familial qualities of Charcot have erased any other characteristic of the person, and certain authors, who attempted to present other aspects of Charcot's life and personality which may have been less admirable and commended usually had difficulties to speak or publish about this topic.

Indeed, scratches on the Commandeur statue generally were not tolerated. With this in mind, it is interesting to present and evaluate the rather negative opinions on Charcot by two famous French writers, Léon Daudet (1868-1942) and Edmond de Goncourt (1822-1896). Both wrote rather extensively on Charcot in their diary or memoirs, also providing exceptional information on the Parisian life at Charcot's time. The point is not to underline Daudet's and Goncourt's writings as the « truth » about Charcot's personality and private or professional life, but their criticisms paradoxically provide a fascinating perspective which may help to reconstruct better who Charcot really was, in counterbalancing a bit the overcrowded, politically correct, praising and censing group.

Friday July 4, 2025
14 h

Charcot's foreign visitors and pupils from Europe, USA and Russia
Emmanuel Broussolle

The foundation by Jean-Martin Charcot (1825-1893) of the Salpêtrière School in Paris had an influential role in the development of neurology during the late 19th century. The international appearance of Charcot attracted many neurologists from all parts of the world. We here present the most representative European, Russian and US young physicians who learned from Charcot during their tutoring or visit in Paris or during Charcot's travels outside France. We particularly make comments on the most renown foreign scientists who met and/or learned from Charcot:

1- **England and Ireland**: Charles-Edouard Brown-Séquard (1817-1894); Thomas Clifford Allbutt (1836–1925), John Russell Reynolds (1828–1896), Edward Henry Sieveking (1816–1904), George Sigerson (1836–1925), John Hughlings Jackson (1835-1911). and Victor Horsley (1857-1916);

2- **USA**: Brown-Séquard again, William Hammond (1828-1900), Silas Weir Mitchell (1829-1941), Edward Constant Seguin (1843-1898), Bernard Sachs (1858-1944) and Moses Allen Starr (1854-1932);

3- **Germany and Austria**: Leopold Ordenstein (1835- 1902), Carl-Louis Thieme (1846-?), Sigmund Freud (1856–1939) and Moritz Benedikt (1835-1920); Switzerland: Paul Louis Ladame (1842-1919), Edmund Landolt (1846-1926), Eugen Bleuler (1857–1939), Jean-Louis Prevost (1838–1927) and Henry Auguste Widmer (1853–1939);

4- **Russia**: Aleksej Yakovlevich Kozhevnikov (1836–1902), Vladimir Karlovich Roth (1848-1916), Sergey Sergeevich Korsakov (1854–1900), Lazar Solomonovich Minor (1855–1942), I.P. Merzheevskii (1838–1908), Vladimir Bekhterev (1857-1927), Vladimir Chizh (1855-1922) and Alexander Efimovich Sheherbak (1863-1934);

5- **Italy**: Gaetano Rummo (1853–1917), Domenico Miliotti (1851-1888), Giulio Melotti (1857–19?), Angelo De Vincenti (1848-1913) and Edoardo Tofano (1838-1920); 6- Spain: Luis Simarro Lacabra (1851-1921), Santiago Ramon y Cajal (1852-1934) and Lluis Barraquer Roviralta (1855–1928);

6- **The Netherlands:** Pieter Klaases Pel (1852-1919), Constant C. Delprat (1854-1934), Frederik van Eeden (1860–1932) and Eduard Hendrik Marie Thijssen (1856-1932);

7- **Scandinavia and Finland**: Axel Munthe (1847-1949), Carl George Lange (1834-1900), Christopher Blom Leegaard (1851-1921) and Ernest Aleksander Homen (1851-1926); 9- Poland: Samuel Goldflam (1852–1932);

8- **Hungary**: Erno Jendrassik (1858-1921); 11- Romania: Georges Marinesco (1864-1938).

This impressive list of renown foreign neurologists emphasizes the international aura of Charcot. The notoriety and prestige of the Salpêtrière school continued with Charcot's successors, notably Fulgence Raymond, Jules Dejerine, Pierre Marie, Joseph Babiǹski, Georges Guillain, Jean Lhermitte, Raymond Garcin and many others, who received a large number of foreign young neurologists. This trend continued over 50 years after his death. Importantly, in many cases, Charcot's foreign disciples became the founders of Neurology back to their home countries.

Friday July 4, 2025
14 h 30

The Prominent Role of Charcot and the French Neurological Tradition in Latin American

Helio Teive, Carlos Camargo

The establishment of neurology schools in Latin America during the late 19th and early 20th centuries profoundly influenced the French neurology school. In the latter half of the 19th century, the neurology department at the Salpêtrière Hospital in Paris held a preeminent position as the global hub of neurology.

Professor Jean-Martin Charcot (1825-1893), widely acclaimed as the father of modern neurology, was the most revered neurology professor of the 19th century. Many physicians from diverse countries across South America (notably Argentina, Uruguay, Peru, Brazil, and Colombia), the Caribbean (Cuba), and Mexico pursued specialized training in neurology under Charcot's tutelage, and even after his passing in 1893, they continued their training with his numerous disciples.

As a result, nearly two centuries after the birth of Charcot, his enduring contributions to the field of neurology remain vibrantly influential, particularly in Latin America.

Friday July 4, 2025
15 h

Osler & Charcot: Apostles of international Medicine
Nadeem Toodayan

In the pantheon of late-nineteenth-century clinical medicine, there could hardly be two figures more notable for their leadership and international influence than the celebrated British-Canadian humanist-physician, William Osler (1849-1919), and his larger-than-life Parisian contemporary, Jean Martin-Charcot (1825-1893).

But rarely have Osler's and Charcot's careers been compared. Charcot was already in his sixth year of medical studies at Paris' historical Faculté de Médecine in the year that William Osler was born (1849), and by the time Osler had graduated in medicine from McGill University in 1872, Charcot had become Professor of Pathology at the University of Paris.

Even from those early days, Osler followed closely the lead of his Parisian precursor. In 1879, he reviewed Charcot's translated neurolocalization lectures and was a keen attendant at the Seventh International Medical Congress in London in 1881 where Charcot was an honored guest.

On 17 and 19 June 1890, Osler personally visited Charcot at his Salpêtrière hospital clinic, and later acquired a signed presentation copy of the respected French Professor's 1857 aggregation thesis. When Charcot died suddenly in August of 1893, Osler memorably wrote a respectful obituary for him in the Bulletin of the Johns Hopkins Hospital, and soon after purchased a full nine-volume set of Charcot's famous Œuvres Complètes (1888-1894) edited by Désiré Magloire Bourneville (1840-1909).

Osler found, in these volumes, inspiration for his own neurological publications, including his 1894 compilation *On Chorea*, in which he revised Charcot's classification of the disease, and devoted the work to a mutual friend of theirs, Silas Weir Mitchell (1829-1914).

Jean-Martin Charcot was in Osler's eyes, "*a cosmopolitan teacher and leader*," whose famous school of neurology "*rendered clear and definite what was formerly the most obscure and complicated section of internal medicine*." "*Who ever met with an English or American pupil of… Charcot, who did not love French medicine?*"

Friday July 4, 2025
15 h 30

Henri Parinaud & Xavier Galezowski, ophthalmologists at La Salpêtrière and namegivers of a disease entity more than a syndrome

Barend F. Hogewind

During his career Charcot closely collaborated in La Salpêtrière Hospital with several ophthalmologists: he explored on the recently developed technique of ophthalmoscopy with Xavier Galezowski (1833-1907) and he engaged Henri Parinaud (1844-1905) to work at the Clinique des Maladies du Système Nerveux because of Parinaud's work in neuro-opthalmology.

In February 1889 at a meeting in the *Hôtel des Sociétés Savantes* Parinaud presented three cases with unilateral follicular conjunctivitis with regional lymphadenopathy transmitted by animals. Galezowski reacted that he himself had encountered about twenty similar cases. Since then, there has been controversy whether the pattern of symptoms in the patients described by Parinaud and Galezowski compounded merely a nonspecific syndrome or defined a single clinical entity. Parinaud believed the latter but did not assess a specific patho-mechanism. Because multiple possible infectious causes were attributed, the combination of symptoms became known as (Galezowski-) Parinaud oculoglandular syndrome.

After almost a century finally the most common infectious agent was assessed: Bartonella henselae. Nowadays B. henselae is even seen as the single most important cause of Parinaud oculoglandular syndrome and therefore it was recently suggested that the term "*Parinaud's oculoglandular syndrome*" is replaced by "*Parinaud's oculoglandular disease*" and only is used in cases with the clinical findings and a Bartonella infection.

Ergo, it took more than a century to elucidate that Parinaud and Galezowski indeed identified a new disease entity.

Friday July 4, 2025
16 h 30

Male Hysteria in the writings by JM Charcot and Hysteric Soldiers in the Interwar Lithuania (1924-1929)

Emilijus Žilinskas

Jean-Martin Charcot (1825-1893) was a prominent figure in introducing the concept of male hysteria. During the years of 1878-1893, Charcot has published over sixty case reports of hysteria in young men. Charcot highlighted that hysterical picture among men is often determined by the so-called traumatic shock, which implicated a psychological explanation of male hysteria instead of a physical one. Further, Charcot sought to break the stereotype that male hysteria can only manifest among wealthy, educated city dwellers, as it was generally thought before.

The concept of traumatic hysteria in men has been acknowledged due to an increase in the number of war neuroses during and after the World War I. People in interwar Lithuania (1918-1939) was no exception, as they faced not only WWI, but also many war-related challenges regarding recovering and maintaining independence of Lithuania.

The current study is based on research of the first professional scientific medical journal "*Medicina*" in the interwar Lithuania and Baltic States (published in 1913 and 1920-1940). A few original articles of the journal discussed the concept of male hysteria and its practical implications in Lithuania. Based on data from one original article, there were 57 male soldiers and recruits with a diagnosis of hysteria during the years of 1924-1929 in the main inpatient clinic for nervous and psychiatric disorders in Kaunas city, Lithuania. Most of the patients were from rural areas. Further, in line with observations by Charcot, the majority of hysteric male patients were uneducated and worked as manual laborers.

This illustrative case highlights that hysteria in men, as proposed by Charcot, has already been a recognizable and acceptable psychiatric condition in interwar Lithuania.

Friday July 4, 2025
17 h

From Charcot to modern epilepsy classification: a historical perspective on seizure diagnosis and evolution

Rūta Mameniškienė

Jean-Martin Charcot, a pioneering French neurologist, is best known for his foundational contributions to understanding various neurological disorders, including epilepsy. In his work, Charcot proposed a detailed clinical framework for classifying neurological conditions, laying the groundwork for later developments in diagnosing and classifying epilepsy. While Charcot did not develop a classification system for epilepsy per se, his approach to neurological classification—emphasizing the importance of clinical observation and symptomatology—has been instrumental in shaping the way epilepsy is categorized today.

Modern classifications of epilepsy have evolved from Charcot's early concepts, with significant refinements, including the International League Against Epilepsy's (ILAE) current system, which distinguishes between focal and generalized seizures, as well as various syndromes and etiologies. This talk explores Charcot's contributions to the field, highlighting the transition from early, broad classifications of epilepsy to more precise, neurobiological models that consider the spectrum of seizure types, underlying pathophysiological mechanisms, and genetic influences. Additionally, it examines the impact of Charcot's approach on contemporary diagnostic practices and the ongoing challenges in creating universally applicable classification systems in epilepsy care.

Friday July 4, 2025
17 h 30

Kinnosuke Miura and Jean-Martin Charcot: A Master-Disciple Legacy in Modern Japanese Neurology

Takayoshi Shimohata, Makoto Iwata

Kinnosuke Miura (1864–1950), a pioneer of modern Japanese medicine, was a disciple of Jean-Martin Charcot in his later years. Despite studying at the Salpêtrière Hospital for only eight months, Miura regarded Charcot as a lifelong mentor. This study explores, through Miura's recollections, the master-disciple relationship between Miura and Charcot and highlights Miura's achievements in Japan under Charcot's influence.

Miura described Charcot as "the person who examined patients in the most detail," "a person who places importance on observing things," "a person who observes well and gains experience," "a person who does a lot of work (= writes papers)," and "not at all conceited." Charcot's diagnostic method, emphasizing visual examination and "instantaneous diagnosis (Augenblicksdiagnose)," made a strong impression on Miura. After returning to Japan, Miura engaged in clinical practice involving Kubisagari (drop head syndrome), amyotrophic lateral sclerosis, beriberi etc. and collaborated actively with psychiatry. He sent two letters to Charcot: one reported his travels and observed diseases, and the other, in early 1893, expressed his intent to specialize in neurology and proposed establishing a department for neurological diseases at the University of Tokyo. This proposal, however, was unrealized and delayed for 70 years until 1964. If accepted, it could have significantly changed the course of Japanese neurology.

Miura was profoundly influenced by Charcot's attitudes, diagnostic methods, and contributions to neurology. Although he did not establish a neurological department upon his return, Miura greatly advanced neurology in Japan.

Friday July 4, 2025
18 h

ISHN Presidential Lecture

Jean-Martin Charcot, member of thesis juries at the Paris medical school (1862–1893)

Olivier Walusinski

Jean-Martin Charcot (1825-1893) is considered the founding father of modern neurology. A perusal of Charcot's many biographies reveals an area in which his works has never been studied. Isn't that surprising? It is a part of the duties for Charcot's medical professorship. The study, I propose to you, will focus on the role of Charcot as a member of doctorate juries, and in particular as the president of these juries.

For this purpose, I have reviewed around 12,500 theses, one by one, defended at the Paris medical school from 1862, Charcot's first year as an agrégé or assistant professor, to his death in 1893. Among the theses, I have selected all of those that discuss neuropsychiatry in the broadest terms (3663). I have chosen to pay particular attention to all of those for which Charcot were part of the jury. This involves 608 theses. All of the data were entered in a database (*Filemaker*) to facilitate identifying those theses corresponding to one or more of the criteria. Statistical comparisons were then carried out (*Excel spreadsheet*).

In addition to these results, brief individualised surveys were conducted on theses selected for their representativeness, either for the subject matter (multiple sclerosis, aphasia, tabes, general paralysis, etc.), or for specific criteria (foreigners, women, etc.), but all of the theses were defended before a jury that included Charcot.

This makes it possible to track how the areas of study in the medical world changed over time, and particularly those of Charcot. The juries Charcot was obliged to be a part of, without any particular ties with the recipient and or any involvement in the selection and supervision of the work, must be differentiated from the thesis juries for his students. In the latter case, the thesis subjects were most often linked to his researches. Providing a thesis subject was motivated, in certain cases, by the desire to disseminate new data in the medical profession, not only by dint of the theses themselves, but also through the reports that the medical press published regularly (e.g. the diagnosis of various types of shaking) and through the commercial publication of these data, in some cases with a preface by Charcot. In other cases, the thesis was a step in the long process of developing a theory (hysteria). Or it led to a pubic flowering of new ideas, insufficiently proven, which Charcot would only cover in his Lessons once there was convincing confirmation (amyotrophy).

This rich cornucopia selected here gives rise to certain neglected nuggets, as well as works that have entered the classical corpus.

Saturday July 5
9 h

Charcot and the Birth of Neurological Photo-Chrono-Cinematography
Francesco Brigo & Lerenzo Lorusso

Iconographic sources play a crucial role in understanding the development of medical knowledge, particularly in the neurological field. A pioneer in this domain was Jean-Martin Charcot, who began his work in the nervous diseases department in 1862.

In 1878, he founded a photographic laboratory directed by the technology pioneer Albert Londe (1858-1917). The importance of photography in the clinical field was initially demonstrated by Duchenne de Boulogne (1806-1886), who used it to document the electrical stimulation of facial muscles. Charcot became aware of the applications of photography through Duchenne's illustrated neurological texts, first published in 1861.

However, it was Désiré-Magloire Bourneville (1840-1909) and Paul-Marie-Léon Regnard (1850-1927) who applied photography at the Salpêtrière Hospital with Charcot's collaboration. They founded the first photographic medical journal, *La Revue Photographique des Hôpitaux* (later *Revue Médico-Photographique*), which was active until 1876 and then succeeded by *Iconographie de la Salpêtrière* (1875-1880) and subsequently *Nouvelle Iconographie de la Salpêtrière* (1888-1918). Albert Londe captured images of hysterics and neurological patients, while Paul Richer (1849-1933), alongside Charcot, documented neuromuscular hyperexcitability in hysterical subjects under hypnosis.

Charcot and Londe recognized a limitation in the photographic medium: it could only document a single moment and was unable to capture the various phases of a movement or gesture. This limitation led Charcot's students to seek a more suitable tool for recording motion, laying the foundations for the birth of chronophotography, the precursor to cinematography.

Saturday July 5
9 h 30

The forgotten cultural influence of Jean-Martin Charcot: Hysteria and hypnosis in early cinema

Dennis Henkel, Axel Karenberg

Jean-Martin Charcot's medical achievements have gone down in medical history as milestones and initiated an epochal change in neurology. Lesser known is the impact Charcot's theories had on society and culture, especially on the art of cinema.

In 1895, just two years after the death of the great neurologist, the Skladanowsky brothers astonished the public with what was probably the world's first film screening in Berlin - a cultural sensation. Quickly establishing itself as an influential mass medium, cinematography took up some of Charcot's central concepts and popularized them: Female Hysteria and Hypnosis.

From 1896 to 1926, systematic analysis made it possible to identify almost 100 films that directly and indirectly address (female) hysteria and hypnosis, illustrating the far-reaching influence of these concepts on the self-perception of society and its image of femininity.

The lecture will trace this cinematic phenomenon and illustrate it with carefully selected film clips – from *The Criminal Hypnotist* (USA 10909, D.W. Griffth) to *Zweimal gelebt* (D 1912, Max Mack) to *Dr. Mabuse, the Gambler* (D 1922, Fritz Lang) – and thus trace the image that Charcot's theories have created in the minds of cinema audiences.

The results polarize: Hypnosis, advocated by Charcot as a therapeutic instrument, was stylized as a dangerous weapon and branded as ineffective, when staged therapeutic settings – which wasn't often. More so on the cinematic representation of female Hysteria: emotional lability, hysteric seizures, public outrage and lethal laughter – hysteria was staged as a testament to female emotional instability.

In summary, this lecture will explore how cinematography portrayed two of Charcot's best-known theories as dangerous and stigmatizing, reflecting the dubious reputation to which Jean-Martin Charcot was subjected after his death.

Saturday July 5
10 h

Charcot on Screen: Portrayals and Preconceptions of a Medical Icon

Brigo Francesco & Lorusso Lorenzo

Jean-Martin Charcot (1825-1893) has been depicted in various films, reflecting cultural preconceptions and broader perceptions of his work. These portrayals often emphasize the dramatic and controversial aspects of his methods, particularly his treatment of hysteria and his mentorship of Sigmund Freud (1856-1939).

In Freud: The Secret Passion (1962), directed by John Huston, Charcot, portrayed by Fernand Ledoux, is depicted as a crucial mentor to the young Freud. The film highlights Charcot's influence on Freud's early career, focusing on his exposure to hysteria and hypnosis. This portrayal reinforces Charcot's role as a pioneering figure in neurology and psychoanalysis.

In the French drama Augustine (2012), directed by Alice Winocour, Charcot, played by Vincent Lindon, is shown navigating his relationship with Augustine, a young female patient suffering from hysteria. The film explores the complex dynamics of power, gender, and science, portraying Charcot as an authoritarian figure whose neurological demonstrations blur the lines between medical treatment and exploitation.

Similarly, Le Bal des Folles (2021), directed by Mélanie Laurent and based on Victoria Mas's novel, features Charcot, portrayed by Grégoire Bonnet, as the head of Salpêtrière Hospital, conducting controversial treatments on women with mental and neurological conditions. Both films critique the oppressive and often misogynistic aspects of historical psychiatric practices, shaped by the patriarchal nature of the late 19th century.

These movies, while compelling, often emphasize feminist critiques over strict historical accuracy, highlighting broader societal issues surrounding Charcot's work. A similar female perspective is found in the short movie I Dream of Augustine (2005) by Cordelia Beresford and in the fascinating black-and-white film Augustine (2003) by Jean-Claude Monod and Jean-Christophe Valtat.

Through these cinematic portrayals, Charcot emerges as a complex figure whose legacy continues to provoke debate beyond the realm of medicine.

Saturday July 5
10 h 30

From Clinic to Stage: Jean-Martin Charcot's Influence on Theatre and Dance

Brigo Francesco & Lorusso Lorenzo

Jean-Martin Charcot significantly influenced the intersection of medical discourse and performance art in the late 19th century. His lectures at the Salpêtrière Hospital, particularly those involving hypnosis on hysterical women, turned clinical observations into spectacles that blurred the lines between science and performance.

In 1888, Friedrich Nietzsche, aware of Charles Féré's research on hysteria and hypnosis, provocatively described Richard Wagner as exhibiting "*neurosis*," possibly reflecting Charcot's medical theories and concerns about the psychological effects of Wagner's operas. This connection is evident in Wagner's opera Parsifal, particularly in the character of Kundry, who displays hysterical traits. Additionally, Le Figaro's 1883 comparison of Charcot to "*Wagner, le grand cabotin musical*" underscores the performative nature of Charcot's clinical work.

Charcot's theatrical approach parallels Jacques Offenbach's opera Les Contes d'Hoffmann (1881), especially in the character of Olympia, a mechanical doll exhibiting lifeless, robotic behavior similar to the automatisms seen in Charcot's hysterical patients. This comparison highlights the performative aspects of Charcot's clinical demonstrations.

Charcot's influence also extended into dance and choreography through Vladimir Ivanovich Stepanov, who attended Charcot's lectures and developed a system for notating body movements, published in his 1892 book *L'Alphabet des Mouvements du Corps Humain*. This system reflects Charcot's impact on the codification of human movement.

Theatrical portrayals of characters such as Salome and Elektra may have responded to Charcot's medical stereotypes of the "*performative hysterical*" female body. Notably, Sarah Bernhardt, who attended Charcot's lectures, used his insights to prepare for her role in Eugène Scribe's Adrienne Lecouvreur.

Anna Furse's 1991 play Augustine (Big Hysteria), though not entirely historically accurate, explores Charcot's misogyny and the exploitation of women within a patriarchal system, illustrating Charcot's lasting influence on theatrical representation and feminist critique.

Saturday July 5
11 h 30

ISHN Annual General Meeting

Details of this ISHN Board Meeting will be sent to members few weeks before Paris's meeting.

The Secretary, Yuri Zagvazdin, and our Treasurer, Diane Friedman, will present society business, including discussion of a new format of our membership.

President Olivier Walusinski and Peter Koehler will provide highlights about the 30th annual meeting that will be held in July 2026 in North America.

Peter Koehler will present news of the *Journal of History of the Neurosciences* (JHN), including monthly activities, and changes in Editorial Board composition.

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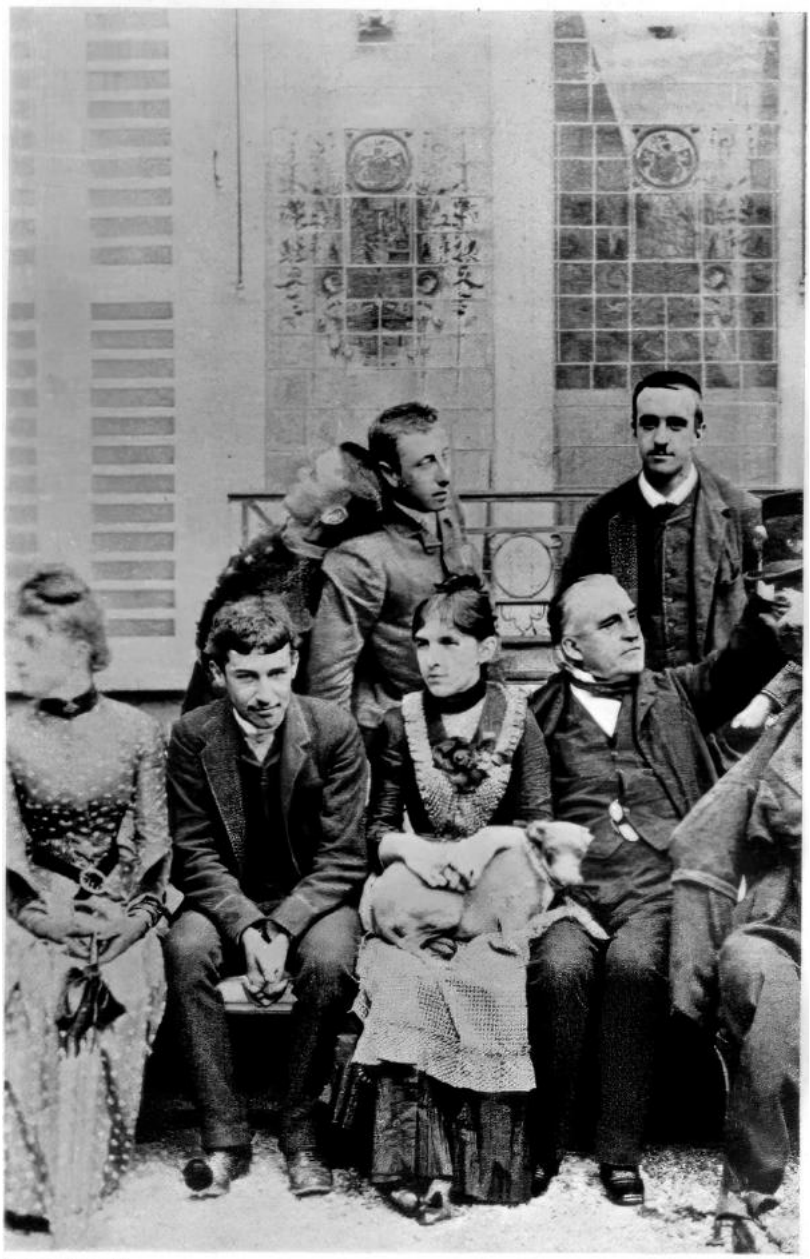
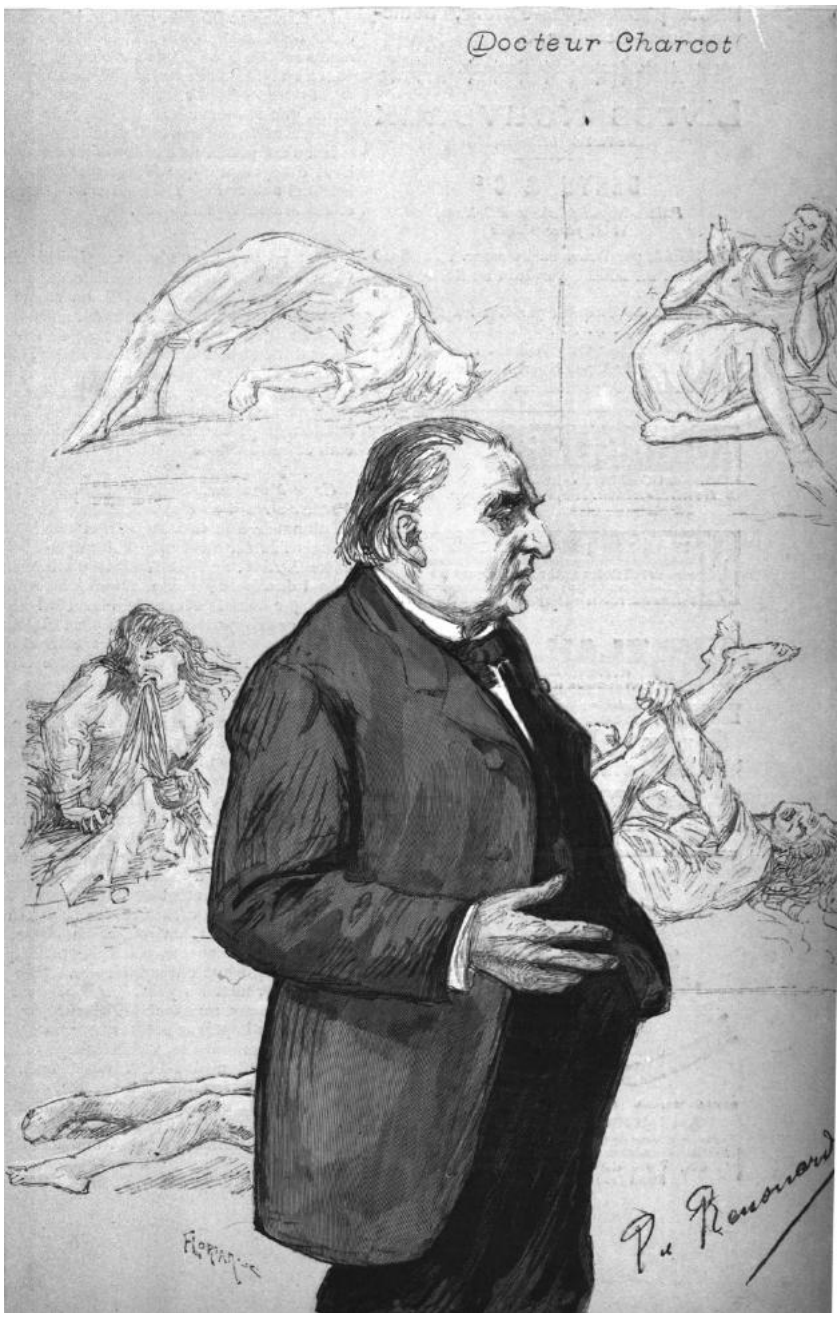


Planche IV

CHARCOT, SES ENFANTS ET LEURS AMIS

Pierre Parrot, Viguès
Marie-Louise Pailleron
L. Daudet
Jean Charcot
Jeanne Charcot
Pr. Charcot


Docteur Charcot

PARIS. — Mlle SCHULTZE SOUTENANT SA THESE DE DOCTORAT A L'ÉCOLE DE MÉDECINE. — (Dessin de M. Paul Destez.) — Voir page 607.


CHARCOT
SES ELEVES-SES AMIS
1898
PARIS 11.