

## JEAN MARTIN CHARCOT, 1825-1893\*

### AN APPRECIATION

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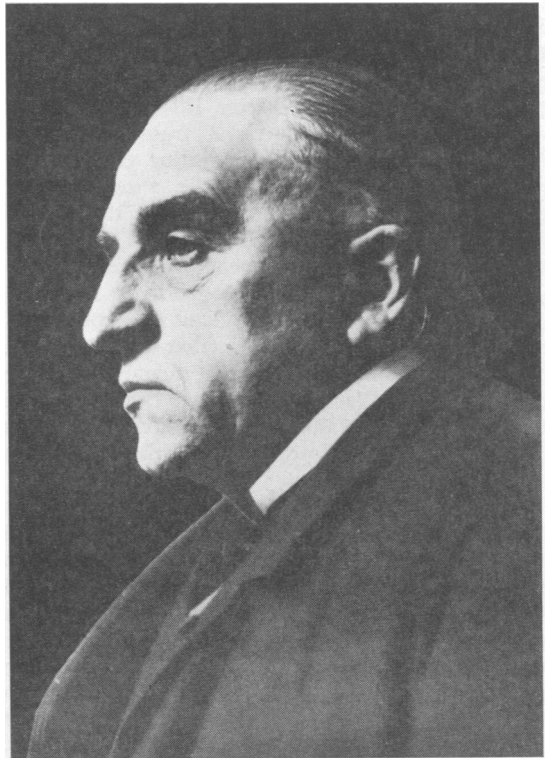
Jean Martin Charcot, the father of modern neurology, was born in Paris on November 29, 1825, within the sound of the bells of Notre Dame and in an epoch of great political and economic struggle.

He lived through a period which covered the ending of the French revolution, the Napoleonic era, the restoration of the Bourbons and Napoleon III, and the occupation of Paris by the Prussians in the Franco-Prussian war.

At the start of the 19th century, France in the space of five decades had become the hub of world medicine. Many of her own sons were responsible for this and among them one thinks of Dupuytren, Laennec, Majendie, Cruveilhier, Pasteur, Claude Bernard, Broca, Vulpian, and Duchenne. At the age of 19, Charcot enrolled as a medical student—a choice entirely his own. He appears to have been a rather thin and pallid young lad, with black hair tossed back over a prominent brow. He was reserved in manner, although a keen observer and an excellent caricaturist with a fine visual memory to help this talent. After an externship of nearly 2 years, he became friendly with Vulpian and both passed into the *Salpêtrière* Hospital. The life of Charcot and the *Salpêtrière* are closely intertwined with the history of Paris, and the first two are certainly inseparable from one another, so much so that his nickname became "Caesar of the *Salpêtrière*". The *Salpêtrière* Hospital at this time was a great asylum holding a population of about 5,000 incurable patients of all ages, suffering from chronic diseases of all kinds, but especially diseases of the nervous system. Indeed, no richer field existed in the whole of Europe for the study of nervous diseases.

In 1853 Charcot graduated, presenting for his M.D. thesis a treatise in which he differentiated the symptoms and lesions of gout from those of

chronic rheumatism. Until then, these two had been considered as one disease. This original work alone singled him out as a great clinician whilst still a very young doctor.



JEAN MARTIN CHARCOT [1825-93].

From a photograph by Laniepce, Paris.  
In the Wellcome Historical Medical Museum and Library, London.  
By courtesy of "The Wellcome Trustees".

He became *chef de clinique* and his teaching clinics and tutorials soon started to attract physicians, not only in Paris, but from surrounding capitals. He took endless time in the preparation

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of his cases, and his presentation was unique. He spoke fluent English and German and everything in his discourse was designed to arrest the audience by dramatization. He could not be regarded as an orator but his speech was slow and given with earnestness. These weekly performances were assisted by the new visual aid of slide projection. His favourite method was to exhibit a group of patients all suffering from the same disease. Charcot would then pass quietly along the line demonstrating similar gaits and deformities. Stamping up and down the floor, mimicking their different clinical signs, he created a vivid and indelible impression on his students, who were unanimous in their admiration of his teaching and clinical acumen.

In 1862 he married a young widow, Madame Durris, and by her had two children, Jeanne in 1865 and Jean in 1867. The former married a Scotsman, Arthur Hendry, and went to live in England. Jean became a doctor of medicine at his father's insistence although he had a stronger preference for a naval career. In the first world war he accepted an invitation from the British Admiralty to command a submarine chaser, later becoming frigate captain in the French Naval command and received the ribbon of the Legion of Honour and the *Croix de Guerre*. The sea was his real métier, and he turned to exploration and was subsequently lost off Iceland in 1936. In defence of his surrender of medicine for exploration, he wrote "Should I succeed, that would be the best way to honour my father's memory, because the surname of Charcot would have been honoured twice" (Faure, 1937). He was given a hero's funeral oration at Notre Dame Cathedral with a huge crowd attending.

Dr Charcot and his wife shared aesthetic tastes in music, art, and sculpture and although he could not play any instrument or read music, he was passionately fond of it. Later on, when they had moved into the Boulevard St. Germain, their weekly Tuesday *soirées* during the winter months were notable occasions, and a sought-after meeting place for the intelligentsia of Paris. He collected a host of varied personalities; and famous figures of the day included the Grand Dukes of Russia, Daudet, and Proust, and the Emperor of Brazil. Madame Charcot had a wonderful table and delectable wines, and kept wit and conversation scintillating. Politics and religion were never topics, although Charcot was an ardent and patriotic Frenchman. He never concealed his aversion to dictators, poets, and poetry—although he loved Shakespeare and the classics!

With the advent of the Franco-Prussian war, when hostilities approached the gates of Paris in 1875, he evacuated his family to London. This experience of war profoundly shocked his sense of justice, and he subsequently refused to attend any congresses held in Germany.

He is given credit for paving the start of the Franco-Russian alliance. Charcot was friendly both with his own premier, Gambetta, and the Grand Duke Nicholas of Russia, and each statesman was anxious to meet the other informally. President Gambetta told the physician about his hopes and Charcot was able to entertain them together at his lovely villa at Neuilly. Shortly afterwards the Alliance was entered into by the two countries.

Charcot had already visited all the European countries including Russia, and met their leading personalities in medicine and literature; and it was not surprising with the growth of his enviable reputation in medicine that he was called in to examine several foreign ruling sovereigns and other world-famous figures.

With the passage of time in this strenuous epoch, the decade of 1862-72, he became mellowed although still preserving his air of aloofness and detachment. He possessed in himself such likeable traits combined with an exemplary character that he was always a first favourite with his students, and universally popular with his patients in spite of cold and forbidding mannerisms.

He enjoyed the internes' parties with their youth and gaiety and on occasion went out to share their high spirits to the famous *Folies Bergères*! Among the famous neurologists studying under him at this time were Von Bechterew, Babinski, Freud, and Sacks, all of whom became world-famous figures in medicine.

He had a vast experience in hysterics which he preferred to call neuroses and he described a whole series of types, classifying them as paralyses, anaesthesias, spasms, and contractures. Of course, he made mistakes, and these were magnified by his fiercest medical rivals and critics, but he did not overlook the frequency of malingering, indeed he drew attention to it and emphasized the diagnostic errors made as a result of fabrications on the part of the patient. There is no doubt that his original works on the existence of hysteria in the male and traumatic neuroses, were of the greatest value, and his notes on these subjects gave much clinical guidance to medical referees in their assessment of casualties in the first world war.

He conducted a very wealthy practice from the house at St. Germain, sitting behind a big desk in a large lofty room dimly lit by stained-glass

windows, the walls lined by bookcases. This was, in fact, his study which he also used as a consulting room. No one would find here the vast armamentarium of his modern counterpart! It was his custom to have patients examined first by his own private assistant who would prepare a clinical summary, so that each patient could be shown to Charcot with the notes. After consultation, the patient returned to Charcot's assistant to pay the fee. It is interesting to contemplate the scale of fees then, relative to those taken today; his normal fee was 40 francs (at this time £2 sterling), or the wages of a French tradesman for two weeks! (Guillain, 1955).

Professor Lallemand at a meeting of the Academy of Sciences on the occasion of the Centenary of Charcot in 1925 told how Charcot was slandered publicly, and came near to losing his election for membership of the Academy of Sciences in 1883 (Lallemand, 1925). On the very morning of his election, a leading Paris newspaper printed an anonymous article by one, Ignotus, which violently attacked his life and work. In spite of the wide publicity Charcot was elected, but truth will out. Several years later he received an urgent request to go to a paralysed patient, who (the *royal patient*) said "I am Baron X and the author of the scurrilous attack which caused you such grief. It will be a source of remorse to me always. I was so poverty stricken at the time that on payment by three of your colleagues I agreed to write the article of venality. Now, knowing who and what I am, can you wish to take care of me?" "Of course", replied Charcot, "but this time there will be no fee".

He had the largest neurological practice of the time in Paris, and drew his patients from all over Europe as well. Poverty was no barrier to seeing him and he examined many free.

The decade 1862-72 proved to be his greatest productive period and in which he received the appointment of Professor of Pathological Anatomy. It was during this period that he discovered that multiple sclerosis was an entirely distinct nervous disease. Until then it had been confused with paralysis agitans. He is probably best known for his monumental clinical studies on amyotrophic lateral sclerosis—later to become known as "Charcot's disease", which brought him international renown. He again became prominent with his clinical and pathological studies on the tabetic arthropathies. At the International Medical Congress in 1881, in London, his presentation of "Bone changes in Tabes" aroused great clinical interest, and hereafter the name "Charcot's joint" was given to joints of luetic pathology. He had already exhibited specimens with spontaneous fractures in tabes dorsalis

at the Museums of Owens College, Manchester, and The Royal College of Surgeons, London. At this time Paget wrote to him about joint changes and in a courteous but firm letter set down his entire disagreement with Charcot's exposition.

In 1882, Charcot was elected to an entirely new Chair, created especially for him—the Professorship of Clinical Diseases of the Nervous System. Charcot, at the time of his inaugural address, was quick to acknowledge publicly the debt he owed to Guillaume Duchenne. Indeed he called him his master in neurology. Years earlier Duchenne had attracted attention by his discovery of muscular paralysis (Duchenne's paralysis). Charcot and he became close friends and, latterly, Duchenne joined Charcot at the *Salpêtrière*; his influence on Charcot in directing him to studies on the nervous system is beyond question.

Charcot intensively studied epilepsy and cerebral localization and was greatly impressed, whilst in London, with the trephining work of the surgeon Horsley in removing cerebral tumours for Jacksonian epilepsy. On his return to Paris, he impressed on his colleagues and staff, that all patients with motor epilepsy, not due to syphilis, should have the surgeons' attention. Although he drew attention to the original and earlier studies of Bravais in motor epilepsy, he was the first to concede that Hughlings Jackson's explanations were by far the most skilled and complete.

His intellectual honesty was transparent and unmovable, and served him in good stead against the calumnies of his enemies. Charcot had a dominating personality with tough and also tender aspects, and although normally a reserved man he proved his courage publicly when he was the first to rise in defence of his life-long friend Pasteur, when his rabies vaccine was attacked in the Academy of Medicine.

Every year under his leadership at the *Salpêtrière* was one of new discoveries in an exciting sequence; the year of intermittent claudication, the year of Charcot's disease, the year of tabetic arthropathies, the year of Charcot-Marie-Tooth disease, the year of aneurysms, the year of cerebral localization, and finally the years of neuroses and aphasias.

His facile grasp of the correlation of the clinical symptoms on the one hand with the signs of the patient's morbid pathology on the other, showed his great abilities in neurological studies. He quickly extracted the central pattern of a disease from a maze of complexities. Wechler has well said of him: "Charcot entered neurology in its infancy and left it at its coming of age, largely nourished by his own contributions".

In a speech of thanks, after his election to the Academy of Sciences in 1883, he epitomized his guiding philosophy in medicine:

"While I am firmly convinced that there is in medicine an entire field which belongs properly to the physician, which he alone can cultivate and harvest and which necessarily would be closed to the physiologist who, consistently isolated in his laboratory, is obliged to remain aloof to facts discovered in the clinic: nevertheless, I believe with equal conviction that the widely accepted intervention of the anatomical and physiological sciences into medical affairs is essential to further progress in medicine. I believe that the practice of medicine does not have a real autonomy but that it lives on borrowed discoveries and applications, and without continuous scientific renovation it would soon become decadent. Finally, I believe that, aside from questions of diagnostic ingenuity and other intuitive qualities, which cannot be acquired by all, a physician is only as good a clinician as he is a pathologist. Very sincerely this is my creed."

Professor Charcot suffered latterly from angina. He led an unhealthy life, taking little or no physical exercise. He spent entire days sitting in his consulting room at the hospital or at home. He smoked an excessive number of cigars until angina checked this appetite for nicotine.

In August 1893, at his wife's insistence, he went on vacation to Morvan with two of his old pupils, Professors Debore and Straus, but did not survive a severe vascular episode.

He was buried at the Montmartre Cemetery after lying in state at the *Salpêtrière* Chapel.

In 1895 a bronze statue was erected outside the entrance of the *Salpêtrière* paid for by contributions by his pupils. It was to be removed during the German occupation in the second world war, and sent to feed the furnaces for munitions.

The author, a former student of the *Salpêtrière*, would strongly emphasize that a much fuller picture and wider appreciation of Charcot's life and work can be enjoyed by spending several days browsing through the *Salpêtrière* Hospital and the Library and Museum dedicated to him.

My grateful thanks are due to the appended list of authors of works, papers, and Archives on J. M. Charcot, and to the Wellcome Trustees for the photograph of the great neuro-physician.

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