

# Hermann Oppenheim, a pioneer of modern German neurology.

*Hermann Oppenheim, um pioneiro da moderna neurologia alemã.*

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## ABSTRACT

Hermann Oppenheim (1858-1919) was a leading figure of the modern German neurology. In spite of the antisemitic official policy, besides his complex personality, he had achieved widespread recognition of his professional qualification that attracted neurologists from all around the world to his private clinic. However, he did not held prominent positions at University milieu, in spite of being the main assistant to Karl Westphal (1833-1890) at the Charité-Hospital, in Berlin. Oppenheim was the author of an encyclopedic book of neurology titled "Lehrbuch der Nervenkrankheiten für Ärzte und Studierende" ("Textbook of Nervous Diseases for Doctors and Students"), first ed., 1894. He also published significant works on several disorders, including "traumatic neurosis" (1889) that was criticized by Jean-Martin Charcot (1825-1893), among others. He was clinically responsible for the first successful removal of brain tumors, including pineal tumor. He coined the term "dystonia musculorum deformans", and he led to several other achievements such as amyotonia congenita ("Oppenheim's disease"), besides Oppenheim's reflex.

Key words- Hermann Oppenheim, Oppenheim's reflex, dystonia musculorum deformans

## RESUMO

Hermann Oppenheim (1858-1919) foi uma figura importante da moderna neurologia alemã. Apesar da política oficial anti-semita, além de sua personalidade complexa, ele alcançou amplo reconhecimento de sua qualificação profissional que atraiu neurologistas de todo o mundo para sua clínica particular. No entanto, ele não ocupou posições de destaque no meio universitário, apesar de ser o principal assistente de Karl Westphal (1833-1890) no Charité-Hospital, em Berlim. Oppenheim foi o autor de um livro enciclopédico de neurologia intitulado "Lehrbuch der Nervenkrankheiten für Ärzte und Studierende" ("Livro Didático de Doenças Nervosas para Médicos e Alunos"), editado em 1894. Ele também publicou trabalhos significativos sobre vários distúrbios, incluindo "neurose traumática" (1889) que foi criticado por Jean-Martin Charcot (1825-1893), entre outros. Ele foi clinicamente responsável pela primeira remoção bem sucedida de tumores cerebrais, incluindo o tumor pineal. Ele cunhou o termo "dystonia musculorumdeformans" e levou a outras várias conquistas como a amiotonia congênita ("doença de Oppenheim"), além do reflexo de Oppenheim.

Palavras-chave - Hermann Oppenheim, reflexo de Oppenheim, dystonia musculorum deformans

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## INTRODUCTION

In the second half of the 19th century, Neurology had just emerged as a discipline, besides, in Germany, several fertile neuropsychiatric clinical and pathological research center existed. The affiliation of neurology to psychiatry or to internal medicine, or their independence, was in the following decades a fiercely controversial topic of German university policy. In addition to Paris, Vienna and Munich, Berlin has become one of the centers of neurological / psychiatric research in Europe. Moreover, over there, neurology remained part of primarily psychiatric institutions in most German universities and hospitals, until the second half of the 20th century (“Psychiatrische und Nervenkliniken”)<sup>11</sup>.

In the meantime, there were still a wide-ranging number of diseases and syndromes not yet identified that were prone to this by a perspicacious and tenacious researcher, such as the Jewish German neurologist Hermann Oppenheim (1858–1919) (figure 1).



Figure 1. Hermann Oppenheim (January 1<sup>st</sup>, 1858, Warburg- May 5<sup>th</sup>, 1919, Berlin). Source: [https://en.wikipedia.org/wiki/Hermann\\_Oppenheim#/media/File:Oppenheim.JPG](https://en.wikipedia.org/wiki/Hermann_Oppenheim#/media/File:Oppenheim.JPG)

Oppenheim and Wilhelm Heinrich Erb (1840-1921) are considered the leading figures of the modern German neurology. This is exemplified by the organization of the “Gesellschaft deutscher Nervenärzte” (German

Neurologists Society) founded in 1907, in Dresden<sup>11,13</sup>. Wilhelm Erb became the first president of this Association, and Oppenheim, one of the main founding members of it, and also, from 1912 to 1916, its president<sup>11,13</sup>.

At the death centenary of the Berlin-based neurologist Oppenheim, it is reappraised some aspects of his outstanding career, but difficult rigid personality type<sup>5</sup>.

## OPPENHEIM'S CAREER AND LIFE

Hermann Oppenheim was born in Warburg, Westphalia/Germany, and he studied medicine at Göttingen, Berlin, and mainly, in Bonn, where he ended with a doctorate, in 1881<sup>13</sup>.

Oppenheim in his career pathway, he almost reached a high position in a lineage of great names at the Berlin Charité Hospital directors that became one of the leading medical centers in the world, at the end of the 19th and the beginning of the 20th century<sup>12</sup>(figure 2). Heinrich-Moritz Romberg (1795-1873), was the head of the Medical Polyclinic of the Charité, and he published the “Lehrbuch der Nerven-Krankheiten des Menschen” “Textbook of Nervous Diseases in Humans”, in 1840. He was followed by Wilhelm Griesinger (1817-1868), between 1865 and 1868, who was the first director to lead the combined neurological and psychiatric departments. After Romberg had sketched an independent neurology for the first time, a few years later, Griesinger, also from internal medicine, tried to put together the psychiatry and the neuroclinic, “Nervenlinik”. Griesinger’s vision was to design a neuropsychiatric clinic by separating both entities within one building. Essentially, Griesinger was clearly more interested in psychiatry than in neurology. At least in Germany, he is known by the statement “Mental diseases are brain diseases”<sup>12</sup>. Griesinger’s pupil and successor, Carl Westphal (1833-1890) was the first full professor of neurology / psychiatry (1874). He was also editor of the German “Archives of Psychiatry and Nervous Diseases”<sup>12</sup>. Carl Wernicke (1848-1905) and Hermann Oppenheim (1858-1919) are the most well-known assistants to him. However, Carl Wernicke was only for a short time an assistant doctor at the Charité, and he had to leave the clinic after a dispute with the management. Regarding Oppenheim, Westphal persuaded Oppenheim to follow him to the Charité (1883), and he became the acting director of the department when Westphal fell seriously ill, in 1887<sup>5</sup>. However, in contrast to Romberg and Westphal - both also Jews – he never converted to Christianity<sup>12</sup>. Another jew,

Friedrich Heinrich Lewy, Oppenheim's student, similarly to Oppenheim years earlier, as he had no perspectives of getting a superior university position, he decided to open his own neurological Institute, but later he left Germany<sup>12</sup>. In short, Oppenheim stayed at the Charité, from 1883-1891.

international centre of neurology, attracting personalities such as Antonio Austregesilo, who would be the first Brazilian chairman of neurology<sup>11</sup>. Besides, Oppenheim was invited not only in the German Reich, but also abroad as a clinician and as a teacher, he also received various awards and honorary memberships from foreign countries<sup>5</sup>.

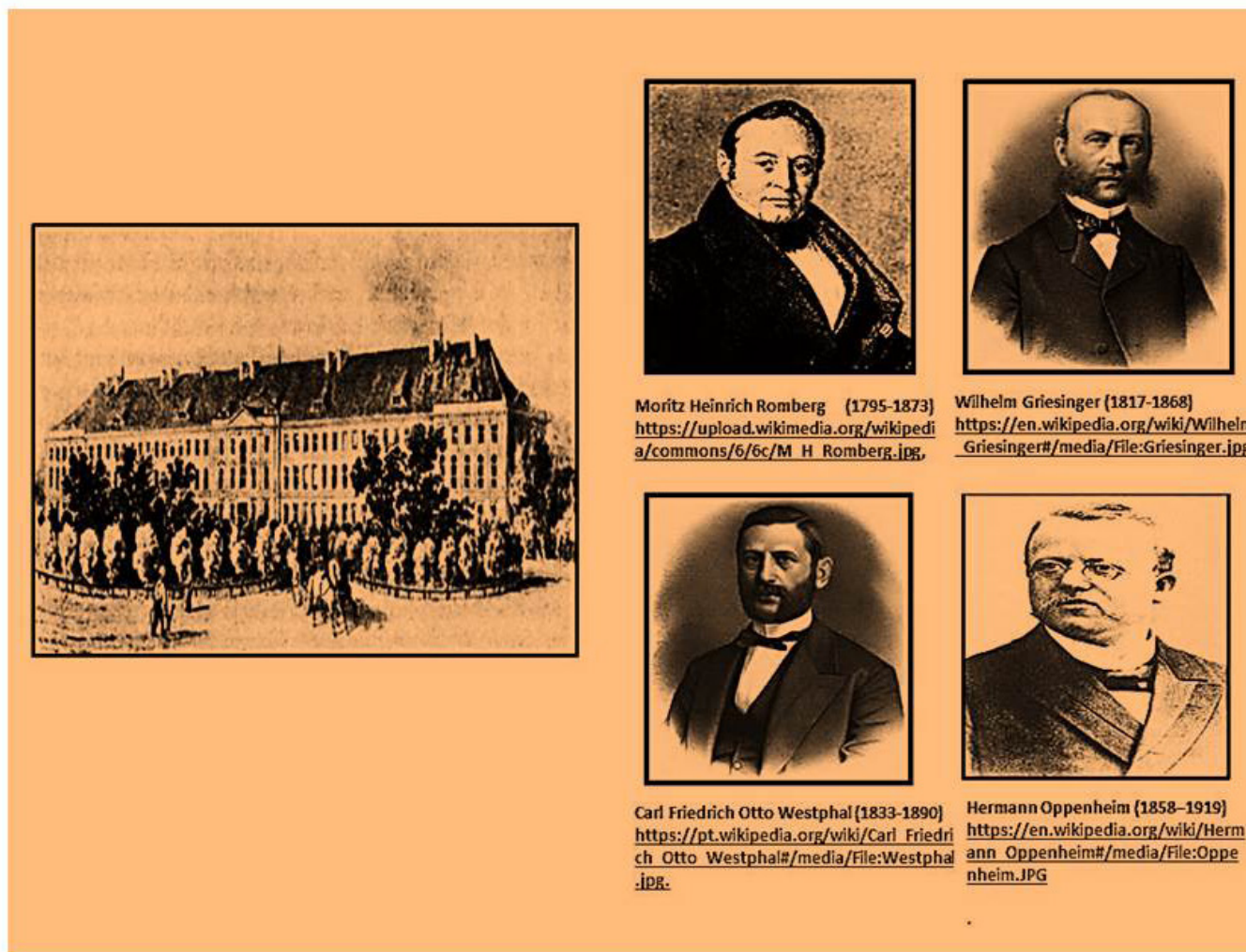


Figure 2. Charité Berlin Hospital and its outstanding directors at Neuropsychiatric Clinics in the 19<sup>th</sup> century until Friedrich Otto Westphal and his assistant and immediate substitute - Hermann Oppenheim<sup>12</sup> (Source: Die Charité um 1850 <https://upload.wikimedia.org/wikipedia/commons/c/cc/Charite.JPG>).

Oppenheim was recommended by the faculty to be Westphal's successor in 1890, after his death. However, the Prussian Ministry of Education rejected this recommendation, maybe because of his Jewish faith. Previously, Oppenheim also failed to become a military doctor, because as a Jew, he was not permitted to take an officer career<sup>5</sup>. Again, an undisputed proposal to appoint him as professor extraordinarius was also cancelled (1902), probably both because of governmental antisemitism. Because of these events, Oppenheim unfolded his career in his own private clinic opened in 1891, in Berlin. But a number of important students came to his clinic, that soon became an

Nevertheless, Oppenheim became increasingly over-sensitive and unhappy, and at the end of the World War I, he had lost much of his fortune in war bonds<sup>5</sup>. And therefore, he could not really enjoy the many honors he receives on his 60th birthday, in the previous year to his death of heart disease, on May 22, 1919, in Berlin<sup>5</sup>. His widow Martha, a "rich Jewish woman" married to him since 1891<sup>5</sup>, committed suicide after the "Kristallnacht" (9-10 November, 1938). Their son, Hans Oppenheim (25 April 1892 Berlin - 19 August 1965, Edinburgh), became a conductor and concert pianist, and emigrated, in 1933, to England<sup>2,13</sup>.

## OPPENHEIM'S WORKS

During all his professional life Oppenheim worked as an author of scientific works with extreme thoroughness and productivity. He wrote extensively on numerous neurological disorders, syndromes or signs, many bearing his name

In 1887, Oppenheim suggested toxins as a cause of multiple sclerosis, and he is considered an early proponent of an environmental cause for it<sup>6</sup>.

Among many other achievements, Oppenheim would be linked to an early description of a Paraneoplastic Neurological Syndrome published in 1888, at the Charité Hospital, under the title “Über Hirnsymptome bei Carcinomatose ohne nachweisbare Veränderungen im Gehirn” “On Brain Symptoms Associated with Carcinomatosis without Detectable Changes in the Brain”, in this way anticipating the research around this theme, what supposedly would start with Derek Denny-Brown, in 1948<sup>10</sup>.

In 1889, Oppenheim published his controversial “The traumatic neurosis” about post-traumatic symptoms of passengers involved in railroad accidents, the “railway spine”. Oppenheim considered that it was due to physical damage to the spine or brain, whereas notably Jean-Martin Charcot insisted that some symptoms could be caused by hysteria. Charcot’s hystero-traumatism would be based on hereditary ground, and it would only reveal or update a pre-existing pathogenic potential. In the Oppenheim’s Traumatic neurosis, the trauma would be a specific disorder entirely caused by the accident, as quoted by Pignol and Hirschelmann<sup>9</sup>. Later on, at the World War I, Oppenheim attributed the observed symptoms of war-shivers to trauma-related emotional “shocks” that lead to functional disorders of the brain, which in turn may be due to “rearrangements” at the molecular level. Besides, in 1918, Oppenheim developed the “State of the doctrine of the war and accident neuroses”<sup>5</sup>.

In 1890, Oppenheim diagnosed the first brain tumor to be operated in Germany what was done by Koehler,

in this way, he promoted the growth of neurosurgery<sup>8</sup>. Besides, in 1913, the first successful operation in the pineal region was reported by Oppenheim, who had referred a patient to Fedor Krause (1857–1937)<sup>4</sup>.

In 1894, his book titled “Lehrbuch der Nervenkrankheiten für Ärzte und Studierende” (“Textbook of Nervous Diseases for Doctors and Students”) was released (figure 2). It should remain until the 1930s, the standard work of neurology<sup>5</sup>. Seven successive German editions of this two-volume textbook of neurology were released and translated into many languages<sup>8</sup>.

In 1899, Oppenheim discovered the association between myasthenia gravis and thymoma<sup>3</sup>.

In 1900, Oppenheim described patients who hypotonia was present at birth, later it was named “amyotonia congenita”, and subsequently designated as “Oppenheim’s disease”<sup>8</sup>. In 1902, Oppenheim reported on his paper “On the pathology of skin reflexes on the lower extremities” (“Zur Pathologie der Hautreflexe an den unteren Extremitäten”), the cutaneous plantar reflex with leg stimulus that was assigned with his name, and it is observed in pyramidal tract disease in which Babinski’s reflex is ambiguous. Oppenheim also mentioned this reflex in his book<sup>7</sup> (figure 2). Consequently, different techniques with different excitation sites to detect Babinski’s reflex. Regarding Babinski’s reflex evaluation concerning its validity and agreement, it was extensively studied. Nonetheless, Oppenheim’s reflex is less accurate and reliable than the main one, that of Babinski and, also, Chaddock, however, it is also a reflex to be successively examined to increase the global accuracy of these tests, in the case of absence of the Babinski’s reflex, in suspected pyramidal lesions.

In 1911, Oppenheim introduced the term “dystonia musculorum deformans” for a type of childhood torsion disease, and its classic description includes the characteristic “dromedary” gait<sup>8</sup>. Many others subjects were studied by Oppenheim such as poliomyelitis, peripheral nerve lesions, and neurosyphilis<sup>5,8</sup>.



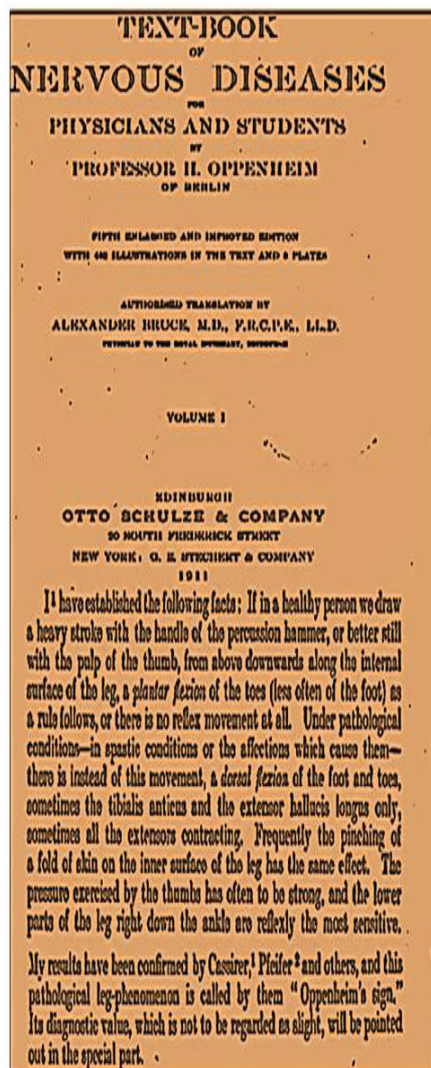


Figure 3 Oppenheim's master piece, fifth version, English version, and his mention to the cutaneous plantar reflex with leg stimulus<sup>7</sup>.

## CONCLUSIONS

Oppenheim is one of the main founders of the modern German Neurology, and he was a model of leadership, creativity and tenacity that were unfolded in a monumental Neurology book, besides many conceptions of new diseases, syndromes and signs in Neurology, such as a variant of the Babinski's reflex – Oppenheim's reflex.

Oppenheim in spite of his high achievements, but some failures, he became an odd man out in German Society, maybe because of the antisemitic ambience and his high self-demanding.

## CONFLICT OF INTEREST

The author declares that there is no conflict of interest.

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