

Marleide da Mota Gomes<sup>1</sup>  
<https://orcid.org/0000-0001-8889-2573>

Roberto Pereira Santos<sup>2</sup>  
<https://orcid.org/0000-0002-9862-6057>

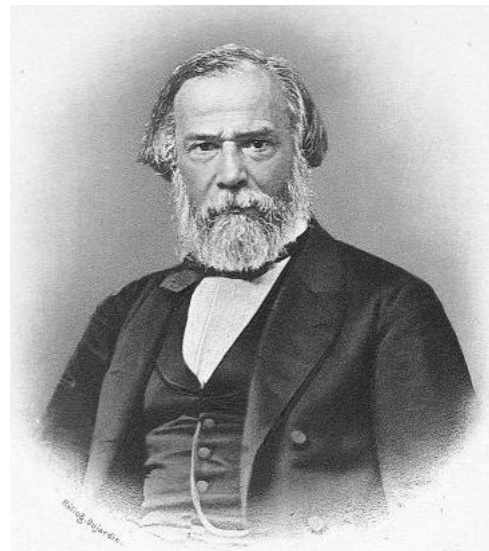
Antonio E. Nardi<sup>1</sup>  
<https://orcid.org/0000-0002-2152-4669>

## Tempering mood and opportunities in the life of the neurophysiologist Charles Brown-Séquard (1817-1894)

*Variações de humor e oportunidades na vida do neurofisiologista Charles Brown-Séquard (1817-1894)*

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This is a life retelling of the outstanding physiologist, neurologist and endocrinologist, *Charles-Édouard Brown-Séquard* (Figure 1)<sup>1</sup>. He is famous for describing the syndrome of hemisection of the spinal cord that carries his name and his prolific contribution to medicine and pioneering neuroscience<sup>2</sup>. His main academic achievements are summarized by Engelhardt & Gomes<sup>1</sup>.



**Figure 1.** Charles-Édouard Brown-Séquard (born April 8, 1817, Port Louis, Mauritius – died April 1, 1894, Paris, France) (<https://pt.wikipedia.org/wiki/Charles-Édouard-Brown-Séquard> – Feb 7, 2023).

The born Charles Édouard Brown added his mother's original name, Séquard, to his own after her death. He was born in 1817 in Port Louis, Mauritius Island, to an American father and a French mother, Charlotte Séquard (1788-1842), but when she was pregnant, her husband, who was a merchant sea captain, died on a voyage to India, which forced her to work as an embroiderer to maintain the family<sup>3</sup>. Consequently, the son after finishing school and working to save money, at the age of 20, he and his mother decided to go to Paris, searching for better opportunities<sup>2</sup>. Once in Paris, he showed his literary writings to some academics but received negative criticism that reoriented him from literature to medicine. As a medical student, he worked hard, he went to bed at 8 pm to wake up at 2 am, returning to work undisturbed, a lifelong habit<sup>3</sup>.

He married but was widowed three times: in 1853, Ellen Fletcher, in 1872, Maria Carlisle, in 1876, Emma Dakin, and he had three children<sup>3,4</sup>. A constellation of mood changes had been seen in Brown-Séquard since the sudden death of his mother in 1842, as he had bouts of depression, was on the verge of suicide, and also of euphoria, restlessness, and physical and mental hyperactivity, enmeshed with anxiety, which affected him during his life<sup>2</sup>. He also had moments of social withdrawal and travelled to different places as if seeking relief from

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1 Federal University of Rio de Janeiro, Institute of Psychiatry, Institute of Neurology, Neurology and Mental Health Laboratory, History of Psychiatry, Rio de Janeiro, RJ, Brazil.

2 Federal University of Rio de Janeiro, Clementino Fraga Filho University Hospital, Service of Neurology, Rio de Janeiro, RJ, Brazil.

**Address for correspondence:** Antonio E. Nardi. Federal University of Rio de Janeiro, Institute of Psychiatry. Av. Venceslau Brás, 71. Campus da Praia Vermelha – 22290-140 – Rio de Janeiro, RJ, Brazil. E-mail: antonioenardi@gmail.com



his notorious subjective suffering. Thus, his response to professional and personal tribulations fed back even more difficulties, as he could not establish a lasting identity with an important place or institution, becoming perennially an outsider<sup>3</sup>.

Furthermore, this troubled state of mind had seasonal connotations, as it expressed frequent mood swings in autumn and winter with wet and dull days<sup>2</sup>. There is a suggestive genetic component to these mood swings since his son Edouard had a similar lifestyle and behavioral problems, as “there is a pattern of restlessness, instability, constant moving about the country, and work in different fields” as stated by Aminoff<sup>3</sup>. However, despite his mood disorder, in 1846, Charles Brown-Séquard graduated from Paris with a degree in medicine. He was one of the first to study spinal cord physiology, and his doctoral thesis dedicated to his mother was entitled “*Recherches et expériences sur la physiologie de la moëlle épinière*” (*Researches and Experiments on the Physiology of the Spinal Cord*).<sup>5</sup>

In 1852, Brown-Séquard went to the United States searching for new opportunities, but in 1859, he migrated to London, becoming a doctor at the National Hospital for the Paralyzed and Epileptic. Coming back to America, Brown-Séquard taught at Harvard University from 1864 to 1868. In 1869, he became a professor at the École de Médecine in Paris, but in 1873 he returned to the United States and began practising medicine in New York<sup>2</sup>.

Brown-Séquard academic pilgrimage and scientific pioneering attracted international fame to him, bringing patients and interest in his research from all over the world. Dom Pedro II, the Brazilian Emperor, was one of them based on these two prominences. For instance, in 1876, in the name of the Empress, it was pre-scheduled consultation with Brown-Séquard certified by letters sent from London and Brighton<sup>4</sup>, but that would take place in Brussels. Later the Emperor also was examined by the renowned neurologist<sup>6</sup>.

In 1878, at the end of his career, Brown-Séquard returned to Paris to succeed Claude Bernard as a professor of experimental medicine at the *Collège de France* and remained there until his death<sup>2</sup>. Indeed, Brown-Séquard depressive phases, expressed more or less regularly but with varying periods, were exacerbated by comorbidities such as frequent

insomnia and headache, hypochondriacal obsessions, and anxiety outbreaks. In addition, there is long mourning as mentioned by Celestin<sup>2</sup> that during the eighteen months following the death of Maria Carlisle, already expressed intense grief with his mother’s and also Ellen Fletcher’s death. Brown-Séquard’s acquisitions in science demonstrate his creativity aside from the mood outbreak episodes. However, according to Cruz *et al.*<sup>7</sup> in their literature review, it is not possible to state that mood disorder could lead to being more creative than healthy controls.

Regardless, Brown-Séquard’s life is full of adventures, from his childhood on an island in the Indian Ocean, his desire to be a poet as a teenager and his devotion to science that made him cross the Atlantic sixty times in his life and attended famous patients as the Emperor of Brazil Dom Pedro II<sup>3</sup>.

Dom Pedro II’s relationship with the great neurologist and physiologist Brown-Séquard presents the apex of the career of a successful professional. The peripatetic Charles Brown-Séquard made a pilgrimage between different worlds until his definitive establishment in Paris<sup>2</sup>. He remained there until his death, which occurred in 1894 at *Sceaux*, France. He was buried in Paris at the *Cimetière du Montparnasse*.

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