

# Letters from Dom Pedro II to professor Brown-Séquard: imperial correspondence and neurophysiology

Cartas de Dom Pedro II para o professor Brown-Séquard: correspondência imperial e neurofisiologia

Hélio A. G. Teive<sup>1</sup>, Francisco M. B. Germiniani<sup>1</sup>, Renato P. Munhoz<sup>1</sup>, Andrew J. Lees<sup>2</sup>

## ABSTRACT

The authors have analyzed the content of a selection of letters written by Dom Pedro II, the Emperor of Brazil, and sent to Doctor Charles Brown-Séquard, the famous neurologist, between 1876 and 1885. The content of those letters focuses mainly on his wife's, Princess Thereza Cristina, health issues and Dom Pedro's personal desire to foster the research into the physiological study of the nervous system.

**Key words:** Brown-Séquard, Dom Pedro II, emperor of Brazil.

## RESUMO

Os autores analisaram o conteúdo de cartas selecionadas escritas por Dom Pedro II, o Imperador do Brasil, entre 1876 e 1885, e dirigidas ao Doutor Brown-Séquard, um famoso neurofisiologista. O conteúdo das cartas versa principalmente sobre os problemas de saúde da esposa do Imperador, a Princesa Thereza Cristina, bem como sobre seu interesse em fomentar a pesquisa no estudo fisiológico do sistema nervoso.

**Palavras-Chave:** Brown-Séquard, Dom Pedro II, imperador do Brasil.

The distancing of Neurology from both Internal Medicine and Psychiatry had its roots back to the second half of the 19<sup>th</sup> century. Professor Jean-Martin Charcot's systematic study of diseases of the nervous system at La Salpêtrière, in Paris, formed the first Neurology school<sup>1</sup>. Charles-Édouard Brown-Séquard, a Mauritian born in 1817, therefore a British citizen, had already conducted some important neurophysiological experiments in Paris and, in 1860, was appointed as the first physician at the National Hospital for Paralytic and Epileptic at Queen Square, in London. Both pioneer neurologists were respected physicians with large private practices. Amongst their many celebrated patients were some of Europe's aristocracy, including the Emperor of Brazil, Dom Pedro II<sup>2-4</sup>.

Dom Pedro II and Brown-Séquard shared both a friendship and a doctor-patient relationship. In this article, we have briefly presented some extracts from the correspondence shared between Dom Pedro II and Professor Brown-Séquard,

highlighting some of the main topics and making a quick historical account of their shared events<sup>5</sup>.

## PROFESSOR BROWN-SÉQUARD

Charles-Édouard Brown-Séquard, or simply Brown-Séquard (Fig 1) as he is better known, was born in Port Louis, Mauritius, in April, the 08<sup>th</sup>, in 1817, and died a few days before his 77<sup>th</sup> birthday, on April 02<sup>nd</sup> 1894, in Paris. His father was an American sailor and his mother a local Creole. He studied Medicine in Paris, and graduated in 1846<sup>2,6</sup>.

He came to be recognized worldwide as a brilliant neuroscientist, whose area of expertise was the nervous system physiology, and he was eventually rewarded for his endeavors by his nomination to be the Professor of Experimental Medicine in 1878 in Paris, replacing Claude Bernard.

<sup>1</sup>Neurology Service, Internal Medicine Department, Hospital de Clínicas, Federal University of Paraná, Curitiba PR, Brazil;

<sup>2</sup>Reta Lila Weston Institute of Neurological Studies, UCL Institute of Neurology, London, United Kingdom.

**Correspondence:** Hélio A. G. Teive; Rua General Carneiro 1.103/102; 80060-150 Curitiba PR - Brasil; E-mail: hagteive@mps.com.br

**Conflict of interest:** There is no conflict of interest to declare.

Received 18 March 2012; Received in final form 28 March 2012; Accepted 04 April 2012

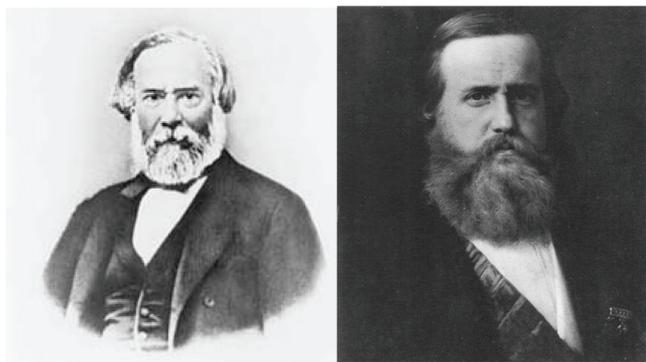


Fig 1. Professor Brown-Séguard (1817–1894) and Dom Pedro II (1825–1891).

Brown-Séguard was cyclothymic, with bouts of exuberance, grandiosity, excessive nervous energy alternating with periods of profound depression and apathy. This may in part explain his erratic career path in which he oscillated between laboratory research and private practice, in Paris, London, Boston, and Richmond, in Virginia<sup>2,6,7</sup>.

Among his major works is the description of the physical signs linked with spinal hemisection, better known as Brown-Séguard's syndrome, as well as other articles on the physiology of nerves, vasomotor reflexes, an experimental model of epilepsy and his most popular work – although highly controversial – the hormone replacement therapy. This international fame led to reach patients who traveled from all over Europe to visit him in his consulting suite. The list of his famous patients included Louis Agassiz, Professor of Zoology and Geology at Harvard College, American Senator Charles Sumner and the Emperor of Brazil, Dom Pedro II<sup>2,6</sup>.

## DOM PEDRO II – EMPEROR OF BRAZIL

Brazilian Monarchy began with the arrival of the Portuguese Royal Family in Brazil, after they had fled Portugal, with the aid of the British Royal Navy, in order to avoid the advancing troops of Napoleon Bonaparte. The Regent Prince of Portugal, Dom João, and his wife, Infanta Carlota Joaquina, settled in Brazil, and their son Pedro de Alcântara (Dom Pedro I) became the first Emperor of Brazil, who was married to Maria Leopoldina, archduchess of Austria. Their son, Pedro d'Alcântara, also known as Dom Pedro II, was born on December 02<sup>nd</sup>, in 1825, in Rio de Janeiro. In 1848, at the age of 23, he became Emperor of Brazil (Fig 1). His reign continued uninterrupted until 1889, when the royal family was banished following the proclamation of the Brazilian Republic. Dom Pedro II married Princess Teresa Cristina de Bourbon, with whom he had two daughters, the most famous being Princess Isabel, and two sons, both of whom died at two years of age<sup>8,9</sup>.

During his reign, Dom Pedro II made three grand voyages: to Europe, to North America, and to the Orient. A

consummate reader and polyglot, he devoted himself to the arts and fostering of science. He had little interest in politics, which may have contributed to some of the offensive nicknames he was forced to bear (“*Pedro Banana*” – “Banana Peter”; “*Pedro da Mala*” – “Suitcase Peter”)<sup>8,9</sup>.

Dom Pedro experienced profound fatigue, asthenia and malaise, and sought the opinion of a number of European doctors, however he was always traveling in the company of his private physician, doctor Motta Maia. He consulted Charcot, in Paris in 1887, who diagnosed him as suffering from *surmenage psycho-physique* (neurasthenia), diabetes *mellitus* and probably a related peripheral neuropathy. His death certificate was signed by Professors Bouchard, Motta-Maia, and Charcot, on December 5<sup>th</sup>, in 1891, at the Bedford Hotel, in Paris, with the cause of death recorded as pneumonia<sup>8-10</sup>.

## THE CORRESPONDENCE BETWEEN DOM PEDRO II AND BROWN-SÉQUARD

Between 1876 and 1885, Dom Pedro II corresponded with Brown-Séguard, and ten of their letters were analyzed for the present article (Fig 2). The main topics covered in the correspondence are summarized in Table. Some were related to the health of the Emperor's wife, Princess Teresa Cristina, who suffered from recurring pain in her lower limbs, possibly neuropathic in origin, as well as spondylotic pain in the dorsal and lumbar segments. When the princess was first introduced to the emperor, she had already a painful leg and walked with a limp that may have predisposed her later to have a degeneration of the thoracic and lumbar spine<sup>5</sup>.

The letter written by Dom Pedro II, from February 24<sup>th</sup>, 1876, stated: “*Ma femme souffre depuis longtemps avec des interruptions plus ou mois longues d’horribles douleurs nevralgiques à la jambe, et tous dernièrement, pour la première fois, du corps et à la tête, dans le cuir chevelu. Deux points sur l’épine dorsale se ressentent plus ou moins à la pression. Son état général est bon.*”<sup>5</sup>

Later, in the letter of June 29<sup>th</sup>, 1876, while the Emperor was in Philadelphia, he wrote to Brown-Séguard about his visit to Professor Charcot: “*Je veux y consulter aussi le Dr. Charcot et c’est bon que vous deux puissiez s’entendre aux même temps avec mon médecin qui a soigné ma femme, et vous donnera tous les renseignements nécessaires.*”<sup>5</sup>

In other letters, Dom Pedro II mentions lectures given by Brown-Séguard that he had attended in person, as well as his own interest in neurophysiology and science. He also enquires whether Brazilian physicians could come as visiting physicians to Paris. Finally, in a sympathetic gesture of friendship he wrote a letter in 1883 about the two vacancies left at the Academy of Medicine of Paris, one following the death of Professor Claude Bernard: “*Il y a à présent deux places vacantes à l’Académie. Quand vous fera-t-on justice?*”<sup>5</sup>.

Table. Letters from Dom Pedro II to Brown-Séguard.

Themes	Letters in chronological order									
	Rio de Janeiro (February 24 <sup>th</sup> , 1876)	Philadelphia (June 26 <sup>th</sup> , 1876)	Rio de Janeiro (April 13 <sup>th</sup> , 1879)	Rio de Janeiro (April 11 <sup>th</sup> , 1880)	Rio de Janeiro (September 08 <sup>th</sup> , 1880)	Rio de Janeiro (August 29 <sup>th</sup> , 1887)	Rio de Janeiro (October 09 <sup>th</sup> , 1882)	Rio de Janeiro (December 14 <sup>th</sup> , 1882)	Rio de Janeiro (April 07 <sup>th</sup> , 1883)	Rio de Janeiro (September 23 <sup>rd</sup> , 1884)
Attending/receiving news of Brown-Séguard's physiology classes and/or studies	X		X	X		X	X	X	X	X
The empress health issues	X	X					X			
sojourn in Boston	X	X	X							
Trip from England to Brussels	X	X	X							
Progresses in Physiology	X			X				X		
Progresses in Science			X	X					X	
Mentioning Charcot		X								
Accompanying physician		X		X						
Mentioning Charles Bernard			X							
Visiting Brazilian physicians in Paris					X	X	X			
Invitation to come to Brazil					X	X	X	X	X	X
Exchanging personal photographs							X	X		X

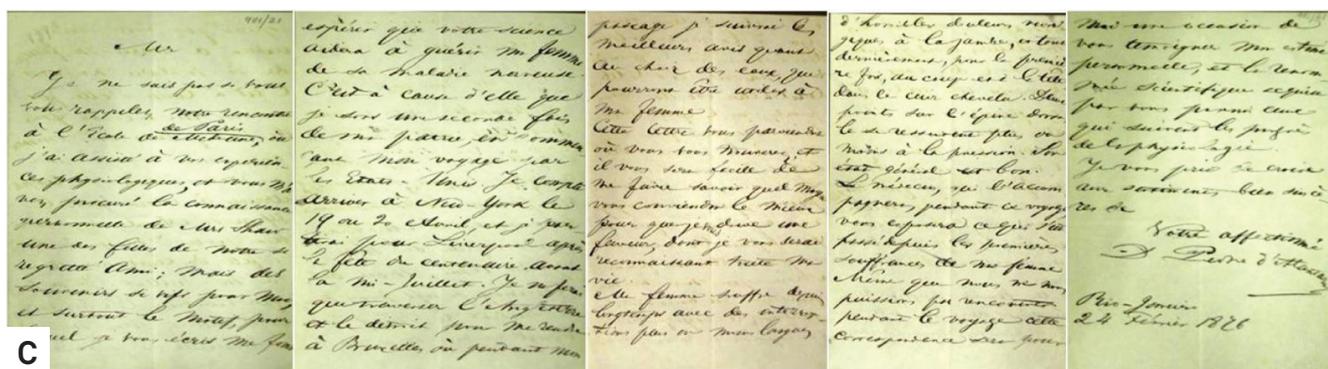
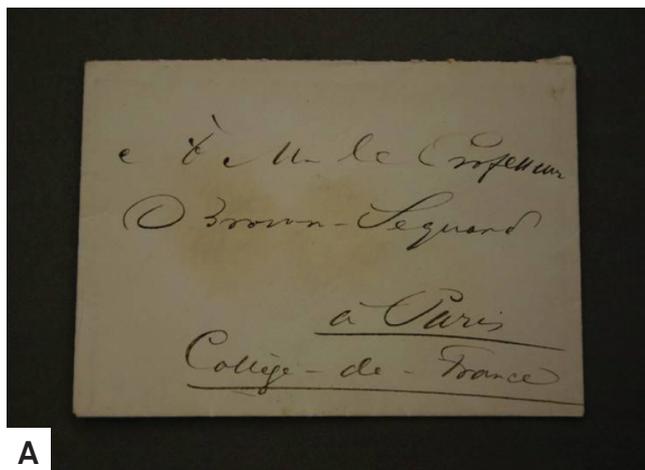


Fig 2. Example of the correspondence sent by Dom Pedro II to Professor Brown-Séguard. (A) Shows the front of the envelope of one of the letters addressed to Professor Brown-Séguard, at the Collège de France, in Paris. (B) The back of the envelope with the Brazilian imperial seal is shown. (C) The first letter written by Dom Pedro II to Professor Brown-Séguard is seen in its entirety.

## CONCLUSIONS

Dom Pedro II, the Emperor of Brazil, was an intellectual attracted to arts and sciences. These interests may help to explain the genuine friendships he forged with some of his physicians, including Charcot and Brown-Séguard, and his sincere desire to encourage the best Brazilian physicians to travel to France to enhance their education.

## ACKNOWLEDGMENTS

The authors thank Professor and Doctor Clotilde de L. B. Germiniani for proofreading. We would also like to comment that although the given name of Dom Pedro II's wife was Princess Teresa Cristina, her name is sometimes spelled as Theresa Christina and Thereza Christina in some documents in English or in Portuguese from Portugal (such as the *Collecção D. Thereza Christina Maria* from the Biblioteca Nacional – <http://bndigital.bn.br/200anis/therezChristina.html>). We chose to keep the more traditional Brazilian spelling of her name.

## References

- Goetz CG, Bonduelle M, Gelfand T. Charcot: constructing Neurology. Oxford, UK: Oxford University Press; 1995.
- Aminoff MJ. Brown-Séguard. An improbable genius who transformed medicine. Oxford, UK: Oxford University Press; 2011.
- Teive HAG, Almeida SM, Arruda WO, Sá DS, Werneck LC. Charcot and Brazil. *Arq Neuropsiquiatr* 2001;59:295-299.
- Goetz CG. Battle of the titans. Charcot and Brown-Séguard on cerebral localization. *Neurology* 2000;54:1840-1847.
- Letters from Dom Pedro II to Brown-Séguard. London, UK: Archives of the Royal College of Physicians; 2011.
- Rengachary SS, Colen C, Guthikonda M. Charles-Édouard Brown-Séguard: an eccentric genius. *Neurosurgery* 2008;62:954-964.
- Goetz CG, Aminoff MJ. The Brown-Séguard and S. Weir Mitchell Letters. *Neurology* 2001;57:2100-2104.
- Schwarcz LM. As barbas do imperador. Dom Pedro II, um monarca nos trópicos. São Paulo: Companhia das Letras; 1998.
- Calmon P. História de Dom Pedro II. Rio de Janeiro: Livraria José Olímpio Editora/MEC; 1975.
- Gomes MM. The decline of Dom Pedro II's Empire and health. Neuropathogenic implications. *Arq Neuropsiquiatr* 2007;65:1260-1265.