

# Dr Jekyll and Mr Hyde: a case of epilepsy in the late nineteenth century

L.C. Álvaro

Department of Neurology, Hospital Universitario Basurto, Bilbao; Department of Neurosciences, EHU/UPV (Universidad del País Vasco), Spain.

## ABSTRACT

**Purpose.** *The Strange Case of Dr Jekyll and Mr Hyde* by R. L. Stevenson is a well-known 19th century horror story. Based on medical clues in the book, we have elaborated a neurological case-study.

**Methods.** Passages from the book with clinical connotations were analysed according to present-day criteria.

**Results.** Our findings are as follows: 1) Episodes of aggressiveness and unmotivated violence with late-onset disordered and naive actions more likely to reflect non-convulsive status epilepticus and ictal violence than true criminal behaviour. 2) Vocalisations and facial changes preceding episodes in which the subject experiences falling, loss of consciousness, and jerking or twisting movements, followed by a slow recovery. 3) Pleasant ictal emotions and changes in perception which are highly suggestive of temporal lobe epilepsy; transient epileptic amnesia is also described in some of these episodes. 4) A trend towards increasing frequency of the episodes, which are triggered by sleep and fever.

**Conclusion.** We discuss how contemporary descriptions of epileptic violence and *petit mal intellectuel* plus Jacksonian theories on local discharges of grey matter may have influenced Stevenson's book. Pervading ideas about degeneracy and Lombroso's theory of anthropological criminology extended to include epilepsy in this historical period. This theoretical background explains the description given to the fits initiating Dr Jekyll and Mr Hyde's transformations and also sheds light on Mr Hyde's physical appearance. In summary, Stevenson described certain clinical features in order to lend vividness and verisimilitude to his story. The present neurological interpretation suggests that all of the historical factors listed above contributed to Stevenson's depiction of his universal character.

## KEYWORDS

Dr Jekyll and Mr Hyde, epilepsy, ictal violence, Stevenson, temporal lobe epilepsy.

## Introduction

*The Strange Case of Dr Jekyll and Mr Hyde* is a well-known 19th century horror story written by R. L. Stevenson.<sup>1</sup> Scholars have identified a number of moral, forensic, and legal implications in this book. We propose using information from the story to elaborate a neurological case-study. First of all, the title itself is revealing, as it presents the tale as a 'case'. In addition, a number of factors from the historical context in which the book was published may have influenced its content. These include 1) events in the author's life, particularly his many ailments, with long-standing pulmonary tuberculosis at the top of the list<sup>2</sup>; 2) the author's puritanical upbringing based on deeply ingrained family traditions<sup>3</sup>; 3) doctor acquaintances and friends as sources of information<sup>4</sup>; and lastly 4)

advances in the study of epilepsy at that time, with London, where the writer was living at the time, as the world leader in epilepsy research.<sup>5</sup> All of the above factors contributed to and may explain the clinical observations appearing in the book. The purpose of this paper is to identify and analyse clinical and neurological information in the story within the context of the four factors listed above.

## Methods: a neurological interpretation

The book was read meticulously, with specific emphasis on any passages with medical and neurological connotations. This information was then extracted and analysed according to present-day clinical criteria.<sup>6,7</sup> To this end, I have used both the Spanish-language<sup>8</sup> and the English-language versions of the story.<sup>9</sup>

Corresponding author: Dr Luis Carlos Álvaro.  
Department of Neurology, Hospital Universitario Basurto.  
Avenida de Montevideo, 18. 48013 Bilbao, Spain.

Telephone: (+34) 944006000  
E-mail: luiscarlosalvaro@yahoo.es

## Results: clinical analysis

Let us begin by examining two assaults committed by Mr Hyde. In Chapter One, (Story of the Door) we read:

Well, sir, the two ran into one another naturally enough at the corner; and then came the horrible part of the thing; for the man trampled calmly over the child's body and left her screaming on the ground. It sounds nothing to hear, but it was hellish to see. It wasn't like a man; it was a Juggernaut.<sup>9(p7)</sup>

The second assault is described in Chapter Four (The Carew Murder Case):

...an aged and beautiful gentleman with white hair, drawing near along the lane; and advancing to meet him, another and very small gentleman...to recognize in him a certain Mr Hyde....He had in his hand a heavy cane, with which he was trifling; but he answered never a word, and seemed to listen with an ill-contained impatience. And then all of a sudden he broke out in a great flame of anger. The old gentleman took a step back, with the air of one very much surprised and a trifle hurt; and at that Mr Hyde broke out of all bounds and clubbed him to the earth. And next moment, with ape-like fury, he was trampling his victim under foot, and hailing down a storm of blows, under which the bones were audibly shattered and the body jumped upon the roadway.<sup>9(p21-2)</sup>

In the latter passage, the reader witnesses Hyde's aggressive behaviour, which is repetitive, excessively violent, and not clearly purposeful; the aggressor flees after the attack. In the quote included below, the narrator informs us of the whereabouts of the murderer and some of his possessions, including the missing half of the cane with which he committed the crime.

Leaving the murder weapon in plain sight would undoubtedly be bizarre and naive behaviour for a true criminal:

The rooms bore every mark of having been recently and hurriedly ransacked;...the inspector disinterred the butt end of a green cheque book, which had resisted the action of the fire; the other half of the stick was found behind the door; and as this clinched his suspicions, the officer declared himself delighted.

"You may depend on it, sir," he told Mr Utterson: "I have him in my hand. He must have lost his head, or he would never have left the stick or, above all, burned the cheque book"<sup>9(p24)</sup>

From that point on, the outbursts of violence, which entail bilateral thrashing movements of the arms in addition to kicking and bending at the waist, are followed by careless behaviour that would not be typical in a criminal desirous of hiding his crimes. Seen as a whole, they are compatible with nonconvulsive status epilepticus<sup>10,11</sup>; psychiatric disturbances frequently accompany this entity and are often misinterpreted.<sup>12</sup> However, epilepsy cannot be diagnosed on this basis alone, as other symptoms must also be recorded. With this in mind, we seek additional descriptions providing support for this diagnosis.

At this point, we should consider the diagnosis made by Mr Utterson himself in Chapter Eight ("The Last Night"):

"These are all very strange circumstances" said Mr Utterson, "but I think I begin to see daylight. Your master, Poole, is plainly seized with one of those maladies that both torture and deform the sufferer; hence, for aught I know, the alteration of his voice; hence the mask and his avoidance of his friends; hence his eagerness to find his drug, by means of which the poor soul retains some hope to ultimate recovery – God grant that he be not deceived! There is my explanation; it is sad enough, Poole, ay, and appalling to consider; but it is plain and natural, hangs well together and delivers us from all exorbitant alarms"<sup>9(p41)</sup>

The 'malady' described above is therefore a stigmatising disorder that tends to provoke self-isolation among its sufferers as a result of rejection by and fearful attitudes among community members; negative self-image and low self-esteem are also present. Changes in the voice and mask-wearing may be due to the speech alterations and facial rigidity accompanying or following episodes. Given the circumstances, patients were understandably eager to find a remedy.

Treatment was empirical, as we learn by studying the history of epilepsy medicine in the first sixty years of the 19th century. There was a wide array of treatment options, from moral advice to zinc, and bromide was the first effective drug to be introduced. It was widely used by the mid-1870s, ten years before the publication of *The Strange Case of Dr Jekyll and Mr Hyde*.<sup>5</sup>

The description in the paragraph cited above has led some authors to consider syphilis,<sup>9</sup> but the social repercussions and clinical features described are actually consistent with epilepsy.

In fact, all medical information from this point on supports the latter diagnosis. The passage below, for example, indicates acute facial changes:

But the words were hardly uttered, before the smile was struck out of his face and succeeded by an expression of such abject terror and despair, as froze the very blood of the two gentlemen below. They saw it but for a glimpse, for the window was instantly thrust down.<sup>9 (p36)</sup>

The writer hints at sudden-onset facial rigidity, probably with blank staring; this terrifies the viewers and sends a warning signal to the sufferer, who barely has time to conceal himself.

Changes in the voice, restlessness, hyperactivity, and religious experiences are witnessed by a servant, who says:

...“was that my master’s voice?” “It seems much changed” replied the lawyer...“master’s made away with; he was made away with eight days ago, when we heard him cry out upon the name of God...”<sup>9 (p39)</sup>

So it will walk all day, sir...and the better part of the night. Only when a new sample comes from the chemist, there’s a bit of a break.<sup>9 (p43)</sup>

In the same chapter, Mr Utterson and a servant attempt to pay a visit Dr Jekyll, who is locked in his room. During that visit, they hear a human voice uttering sounds similar to cries or screams:

“Once I heard it weeping...weeping like a woman or a lost soul”...and they drew near with bated breath to where that *patient* foot was still going up and down...A dismal screech, as of a mere animal terror, rang from the cabinet.<sup>9 (p43-4)</sup> [Emphasis added.]

The narrator uses the polysemous term ‘patient’ at this point as a device to foreshadow future plot developments. Shortly after breaking down the door, Mr Utterson and the servant enter the room: “right in the middle there lay the body of a man sorely contorted and still twitching...the cords of his face still moved with a semblance of life, but life was quite gone...”<sup>9 (p45)</sup>

It seems that after making strange sounds, the character falls down, loses consciousness, and is found lying on the floor, presenting whole-body convulsions and facial rigidity or grimaces. As a whole, these characteristics are strongly suggestive of a generalised tonic-clonic seizure. A colleague and friend of Henry Jekyll’s, Dr Lanion, witnesses the physical transformation of Mr Hyde to Henry

Jekyll and describes it in similar terms. Epileptic traits are depicted yet again as the full process of the episode unfolds: “He paused and put his hand to his throat, and I could see, in spite of his collected manner, that he was wrestling against the approaches of the hysteria.”<sup>9 (p52)</sup>

‘Hysteria’ is a term Stevenson employs here to indicate restlessness and hyperactivity, despite the fact that Charcot had already provided a description of hysteria, and that epilepsy and insanity had been clearly differentiated and outlined by this date. Nevertheless, later events in the text are more likely to suggest the concept of epilepsy: “I could hear his teeth grate with the convulsive action of his jaws; and his face was so ghastly to see that I grew alarmed both for his life and his reason.”<sup>9 (p52)</sup>

The term ‘convulsive’ is clearly associated with epilepsy, and the text appearing immediately below has similar connotations:

A cry followed; he reeled, staggered, clutched at the table and held on, staring with injected eyes, gasping with open mouth...his face became suddenly black and the features seemed to melt and alter...before my eyes –pale and shaken, and half fainting, and groping before him with his hands, like a man restored from death– there stood Henry Jekyll!<sup>9 (p54)</sup>

The subject cries out prior to displaying sudden blank gaze and darkening of the face, perhaps indicative of cyanosis, followed in turn by a decrease in consciousness. Recovery is described as slow and uncertain. This severe and terrifying condition drives Henry Jekyll to a dramatic climax described once again in terms reminiscent of epileptic symptoms.

It is also significant that what Mr Hyde is so anxiously seeking is a substance capable of transforming him, as has already been explained. This element of magic is a classic device in fantasy and horror literature.<sup>14</sup>

In the last chapter (“Henry Jekyll’s Full Statement of the Case”), Dr Jekyll transforms into Mr Hyde and back again almost continuously. A magic potion or concoction is required to begin the process:

I compounded the elements...and...drank off the potion..The most racking pangs succeeded: a grinding of the bones, deadly nausea, and a horror of the spirit that cannot be exceeded at the hour of birth or death. Then these agonies began swiftly to subside, and I came to myself as if out of a great sickness. There was some-

thing strange in my sensations, something indescribably new and, from its very novelty, incredibly sweet. I felt younger, lighter, happier in body; within I was conscious of a heady recklessness, a current of disordered sensual images running like a millrace in my fancy, a solution of the bonds of obligation, an unknown but not an innocent freedom of the soul.<sup>9 (p57)</sup>

The paragraph discloses a series of phenomena including motor and autonomic symptoms (jerking or twisting movements, nausea), the regaining of consciousness and self-awareness (“I came to myself”), a heightened and pleasant emotional state, and lastly, changes in perception in the form of sensual images.

Upon completion of this cycle of events or symptoms, which taken individually or all together may fulfil criteria for temporal lobe epilepsy,<sup>6,7</sup> Mr Hyde emerges. His actions and behaviour are uninhibited, and his counterpart, Henry Jekyll, is unable to control him:

Between these two, I now felt I had to choose. My two natures had memory in common, but all other faculties were most unequally shared between them. Jekyll (who was composite) now with the most sensitive apprehensions, now with a greedy gusto, projected and shared in the pleasures and adventures of Hyde; but Hyde was indifferent to Jekyll, or but remembered him as the mountain bandit remembers the cavern in which he conceal himself from pursuit.<sup>9 (p63)</sup>

This disordered behaviour, during which Mr Hyde has a vague recollection of Henry Jekyll, is described as being episodic, recurrent, sometimes brief, with focal retrograde amnesia and incomplete anterograde amnesia. These clinical features may be typical of transient epileptic amnesia according to present-day criteria.<sup>15,16</sup> Other cognitive functions are preserved during episodes of transient epileptic amnesia, and patients with this condition usually experience other types of seizures, particularly temporal lobe seizures.<sup>15</sup>

The violent actions described in the two extracts cited at the beginning of our neurological reading may be contemplated in this context, and interpreted as ictal violence in a case of temporal lobe epilepsy and nonconvulsive status epilepticus.

The character’s confession informs us that the transformation in the opposite sense, from Mr Hyde into Henry Jekyll, takes place by means of a similar process induced

by drinking the potion:

The second and conclusive experiment had yet to be attempted; it yet remained to be seen if I had lost my identity beyond redemption and must flee before daylight from a house that was no longer mine; and hurrying back to my cabinet, I once more prepared and drank the cup, once more suffered the pangs of dissolution, and came to myself once more with the character, the stature and the face of Henry Jekyll.<sup>9 (p58-9)</sup>

The clinical information contained in this description is quite limited, but we can infer that the process was similar to the previous one (“once more suffered the pangs of dissolution”) by which Dr Jekyll became Mr Hyde.

As the story advances, Mr Hyde remains embodied for longer periods of time and appears spontaneously without any need for potions:

And at the very moment of that vainglorious thought, a qualm came over me, a horrid nausea and the most deadly shuddering. These passed away, and left me faint; and then as in its turn the faintness subsided, I began to be aware of a change in the temper of my thoughts, a greater boldness, a contempt of danger, a solution of the bonds of obligation.<sup>9 (p66)</sup>

The sequence of a possible autonomic aura (faintness, nausea), involuntary abrupt movements of which the subject is conscious (shuddering), decreased consciousness (fainting), and slow recovery unfolds and produces Dr Jekyll’s alter ego once again. This time, transformation is an undesired side-effect, but its features suggesting epilepsy are also relevant. In addition, other characteristics typical of epilepsy are seen in this final and fatal stage as the character transforms as a result of fits that follow trigger actions. Sleep and fever are mentioned specifically:

In short, from that day forth it seemed only by a great effort as of gymnastics, and only under the immediate stimulation of the drug, that I was able to wear the countenance of Jekyll. At all hours of the day and night, I would be taken with the premonitory shudder; above all, if I slept, or even dozed for a moment in my chair, it was always as Hyde that I awakened. Under the strain of this continually impending doom and by the sleeplessness to which I now condemned myself, ay, even beyond what I had thought possible to man, I became, in my own person, a creature eaten up and emptied by fever, languidly weak both in body and mind, and solely occupied by one thought: the horror of my other self. But when I slept, or when the virtue of the medicine wore

off, I would leap almost without transition...<sup>9 (p68)</sup>

From this point on, Jekyll experiences no phenomena or decreases in consciousness. Simply going to sleep or succumbing to his feverish state results in transformation.

## Discussion and Comments

The advance of science has been recognised as an important influence on Stevenson's book; his wife Fanny acknowledged later on that the story was partly inspired by a French scientific paper on the subconscious.<sup>17</sup> French neuroscience had certainly made considerable progress by the end of the first half of the 19th century, several years before the novel's publication in 1886. In particular, the works of Esquirol and Prichard and later works by Morel and Falret deserve to be cited. They described 'furor epilepticus', also called 'epileptic mania', 'epileptic delirium' or *foreur épileptique*. During these episodes, which could precede, accompany, or follow an otherwise typical fit, patients show undue hyperactivity, restlessness, and violence, overcoming attempts to restrain them; they may also present with changes in facial colour and hallucinations.

All symptoms gradually subside after one to three days, a time during which the patient requires isolation and physical confinement.<sup>5</sup> It is not difficult to find similarities between these clinical characteristics and those in the quoted description of Mr Hyde's disordered behaviour. Morel and Falret, both alienists and asylum directors, expanded the clinical descriptions of epileptic violence, rage, and fury. They distinguished between episodes of ictal or peri-ictal violence and the "epileptic character" described as being weak and capricious. Particularly interesting is Falret's belief that *petit mal intellectuel* and *grand mal intellectuel* were the counterparts of petit mal (absence) and grand mal seizures. In a case of *petit mal intellectuel* the patient leaves home, wanders aimlessly, and may commit violent, automatic, spontaneous, and gratuitous acts.<sup>18</sup>

Forensic aspects must be taken into account when analysing such actions, and volition is the key factor: there is no intention behind automatic and unmotivated acts, and therefore those who commit them cannot be held responsible. Yet Stevenson leaves scientific considerations aside to focus on conveying Dr Jekyll's sense of guilt and responsibility from the very beginning of the story, in order to outline its key message: the two men

are in fact one and the same, and a man cannot be severed from his conscience.<sup>3</sup>

Contributions from the English school, particularly studies by John Hughlings Jackson in the second half of the 19th century, may also have influenced the novel. Jackson's works elucidating unilateral or partial epilepsy and his pathophysiological definition of epilepsy as "the occasional, sudden, excessive, rapid and local discharges of grey matter"<sup>5</sup> are still relevant today. The same mechanisms could also be used to explain psychomotor epilepsy and "violent rage from no apparent cause" as a consequence of epilepsy localised in certain areas of one of the hemispheres.<sup>19,20</sup> To explain mental disorders after epileptic seizures (and their consequences, including homicides), Jackson insisted on the principle of dissolution, which was originally proposed by Spencer and greatly influenced Jackson's studies.<sup>21</sup> It states that the brain possesses hierarchical levels. The brain's higher centres are in charge of the most recent and highly developed motor and psychological activities, and inhibition of these centres would therefore result in uncontrolled lower centre activity. Lower-centre activities were described as involuntary, automatic, and suitable for explaining insanity from a physiological perspective.

These stories were linked to the concept of 'degeneracy', that is, disease linked to unfavourable social and economic conditions, alcoholism, and toxic environment. The consequences of such conditions were physical and intellectual weaknesses which were believed to be transmitted to offspring, eventually resulting in extinction of the line.<sup>5,17</sup> By the end of the 19th century, this idea originally proposed by Morel was influential in many fields including literature (Zola's *Germinal* is a prime example), physiology, sociology, and criminology. Within this framework, Cesare Lombroso and Francis Galton compiled a list of distinctive physical features that could be used to identify criminals. Epilepsy was a disorder that fitted degeneracy theories and could easily be linked to Lombroso's list of criminal features. Epileptics and criminals were believed to share degenerative stigmata, physical signs, and psychological traits.<sup>5</sup>

This is helpful for understanding the physical description given for Mr Hyde, including his ugliness, deformity, and small stature. Since this array of characteristics was recognised by Victorian society as pertaining to criminals, it was also associated with the epileptic population. This explains why descriptions of the character's violent

rages, fits, and dysmorphism were included in the text, and we can count them among the devices Stevenson used to reinforce the plot and develop the characters.

Stevenson was no stranger to doctors,<sup>5,22</sup> both in his work and in his private life. His ill health curtailed both his lifespan and his travels, as we learn from his books and letters. He had suffered from a chronic chest condition since he was a young man. It has been suggested that he had tuberculosis, although haemorrhagic telangiectasia is another possibility; this disorder could explain both his chest symptoms and his premature and sudden death from cerebral haemorrhage at the age of 44.

In any case, he was always in close contact with both illnesses and doctors (some of whom were family members), and his doctor acquaintances were a source of information that may account for the clinical details that appear in his writings. His friendship with Henry James must also be mentioned. A decade after Stevenson's book appeared, James published *The Turn of the Screw*, a story describing visions and other features that some authors have interpreted as epileptic in origin<sup>24</sup>; this book may have been influenced by *The Strange Case of Dr Jekyll and Mr Hyde*.

Stevenson was raised in a deeply religious Scottish Calvinist family. References to Satan in his depictions of Mr Hyde are in keeping with the moral beliefs and symbols of his time and setting.<sup>25</sup> Similarly, the doppelgänger, shown here as Mr Hyde, is an archetype linked to opposites and demons in inhibited modern cultures, such as Stevenson's own.<sup>26</sup>

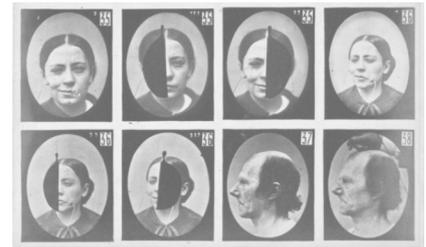
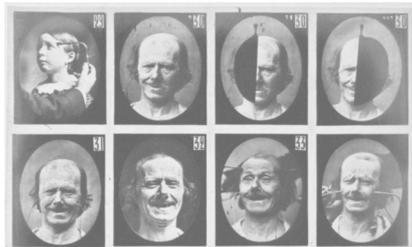
The author also studied the law, although he was never a practicing lawyer. Stevenson's moral conscience and his interest in justice and ethics should be examined from within this complete philosophical setting. The inspiration for *The Strange Case of Dr Jekyll and Mr Hyde* comes from the author's moral background; the medical references it contains are employed for the sole purpose of lending a more truthful appearance to fiction in order to create a more vivid story.

## References

1. Mighall R. Diagnosing Jekyll: The Scientific Context to Dr Jekyll's Experiment and Mr. Hyde's Embodiment. In: Stevenson RL. *The Strange Case of Dr Jekyll and Mr Hyde and Other Tales of Terror*. London: Penguin Books; 2003.
2. Rankin N. *Dead man's chest*. London: Faber; 1987.
3. Chesterton GK. *Robert Louis Stevenson*. London: House of Stratus; 2000.
4. Richardson R. Silent pirates of the shore. *Robert Louis Stevenson and medical negligence*. *Lancet*. 2000;356:2171-2175.
5. Temkin O. *The Falling Sickness: a History of Epilepsy from the Greeks to the Beginning of Modern Neurology*. Baltimore: The Johns Hopkins University Press; 1971.
6. Marsden CD, Reynolds EH. Neurology. Part One. In: Laidlaw J, Ridens A, Chadwick D, Ed. *A Textbook of Epilepsy*. Edinburgh: Churchill-Livingstone; 1982. p. 90-131.
7. Fish DR. Psychic seizures. In: Engel J, Pedley TA, editors. *Epilepsy: A comprehensive textbook*. Vol. 1. Philadelphia: Lippincott-Raven Publishers; 1997. p. 543-545.
8. Stevenson RL. *El Dr. Jekyll y Mr. Hyde*. Madrid: Alianza Editorial; 2002.
9. Stevenson RL. *The Strange Case of Dr Jekyll and Mr Hyde and Other Tales of Terror*. London: Penguin Books; 2003.
10. Kaplan PW. Nonconvulsive status epilepticus in the emergency room. *Epilepsia*. 1996;37:643-650.
11. Scholtes FB, Renier WO, Meinardi H. Non-convulsive status epilepticus: causes, treatment, and outcome in 65 patients. *J Neurol Neurosurg Psychiatry*. 1996;61:93-95.
12. Toone BK. The psychoses of epilepsy: *J Neurol Neurosurg Psychiatry*. 2000;69:1-4.
13. Koehler P. About Medicine and the arts. Charcot and French literature at the fin-de-siècle. *J Hist Neurosci*. 2001; 10: 27-40.
14. Todorov T. *Introduction à la littérature fantastique*. Paris: Editions du Seuil; 1972.
15. Zeman AZ, Boniface SJ, Hodges JR. Transient epileptic amnesia: a description of the clinical and neuropsychological features in 10 cases and a review of the literature. *J Neurol Neurosurg Psychiatry*. 1998;64:435-443.
16. Kapur N. Transient epileptic amnesia- a clinical update and reformulation. *J Neurol Neurosurg Psychiatry*. 1993; 56: 1184-1190.
17. Frayling C. *Nightmare: The Birth of Horror*. London: BBC Books; 1996. p. 125-140.
18. Falret J. De l'état mental des épileptiques". *Archives Générales de Médecine*. 1861;18:423-443.
19. Meares R. The contribution of Hughlings Jackson to an understanding of dissociation. *Am J Psychiatry*. 1999; 156: 1850-1855.
20. Hogan RE, Kaiboriboon K. The "Dreamy state": John Hughlings-Jackson ideas on epilepsy and consciousness. *Am J Psychiatry*. 2003;160:1740-1747.
21. Hughlings-Jackson J. Remarks on dissolution of the nervous system as exemplified by certain epileptic conditions. In: Taylor J, editor. *Selected Writings of John Hughlings Jackson*. Vol. 2. New York: Basic Books; 1958. p. 3-28.
22. Rowen MJ. Doctors and Robert Louis Stevenson. *J Med Soc NJ*. 1978;75:482-483.
23. Guttmacher AE, Callahan JR. Did Robert Louis Stevenson have hereditary hemorrhagic telangiectasia? *Am J Med Genet*. 2000;91:62-65.
24. Álvaro LC, Martín del Burgo A. The turn of the screw: Complex visual hallucinations in Henry James's novel. *Neurología*. 2002;17:151-155.

25. McGinn B. Antichrist in Decline (1600-1900). In: McGinn B, editor. Antichrist. Two thousand years of the human fascination with evil. New York: Columbia University Press; 2000.
26. Gates BT. Robert Louis Stevenson's The Strange Case of Dr Jekyll and Mr Hyde [homepage on the Internet]. Available from: <http://www.victorianweb.org/authors/Stevenson>.

Visit us!



# Neurosciences and History

Official Journal of the Spanish Society of Neurology's *Museo Archivo Histórico*