

Georges Gilles de la Tourette and His Legacy

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Abstract

The first comprehensive description of Gilles de la Tourette syndrome as a neurological condition dates back to 1885 when Georges Gilles de la Tourette (1857–1904) published his case series of nine patients sharing the clinical triad of tics, echolalia, and coprolalia. At the time, Gilles de la Tourette was working at the Salpêtrière Hospital in Paris, France, under the guidance of Jean-Martin Charcot (1825–1893), one of the fathers of modern neurology. It was in fact Charcot who credited Gilles de la Tourette with the description of the syndrome that was named after him and gave him eponymous fame. Gilles de la Tourette's character was described as talented but erratic, and his life was relatively short for current standards but far from uneventful. Gilles de la Tourette syndrome, the complex neurodevelopmental disorder characterized by multiple motor and vocal tics, is undoubtedly his main legacy. The importance of the 1885 article was greatly underestimated at the time of its publication, partly because Gilles de la Tourette's main interests lied in the field of hysteria and hypnosis. Throughout the first half of the XX century, his name was progressively neglected, as the psychoanalytic paradigm that prevailed associated tics with rare and somewhat bizarre psychologically driven manifestations. However, Gilles de la Tourette's posthumous fame resurged during the 1960s, concomitant to a paradigm shift whereby the development of neurobiological models drove the *renaissance* of the scientific study of tic disorders, together with a reappraisal of Gilles de la Tourette's initial contribution.

Keywords: Georges Gilles de la Tourette, Gilles de la Tourette syndrome, history, tics

INTRODUCTION: WHAT'S IN A NAME

In 1986, the eminent British neurologist MacDonald Critchley (1900–1997) published his considerations about the name of Gilles de la Tourette syndrome: “The malady of Gilles de la Tourette: What a compelling and grandiloquent choice of words! As a matter of fact, it is a fragment of poetry with its iambus following a dactyl. More than that, it is a musical theme which reverberates in one's imagery. Little wonder that the eponym fixates itself in the mind of every student at the outset of his career in neurology, there to remain throughout his life like a limpet.”^[1] Critchley was indeed correct in extracting two ancient Greek poetry meters from the euphonic and exotic-sounding eponym [Figure 1].

Critchley's words might have been inspired by Guilly's previous remarks on the name of Gilles de la Tourette in his contribution to Critchley's *festchrift*:^[2] “Gilles de la Tourette: What an attractive surname! One that evokes a figure out of Watteau rather than the pitiful disease (...) to which his name remains attached.”

“Gilles de la Tourette syndrome” arguably resonates in the ears of clinicians as the name of the most complex and challenging tic disorder, and in the hearts of the patients who suffer from it as the name of the chronic condition, they started feeling sieged by in their early life.^[3] It has been reported that the mother of a young patient with tics once told the American psychiatrist and expert on Gilles de la Tourette syndrome Arthur K. Shapiro (1923–1995) “What a pretty name for such a terrible disease.”^[4] Nevertheless, in his recent biography of Georges Gilles de la Tourette, French physician, and historian Olivier Walusinski cannot help but asking “Had Gilles de la Tourette been named Martin, or Leblanc or Guinon, would the eponym have been created?”^[5]

Although Gilles de la Tourette described his syndrome in 1885, the resurgence of his posthumous fame is relatively

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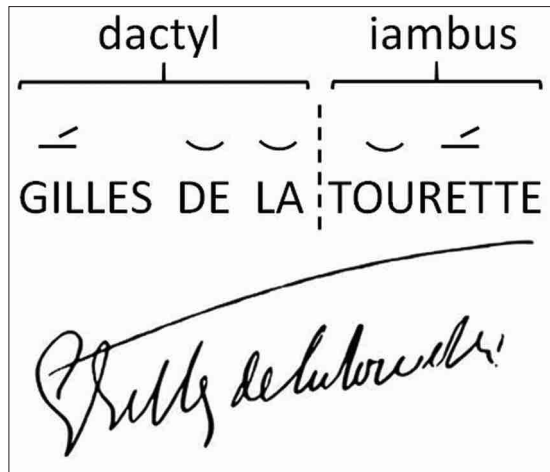


Figure 1: Gilles de la Tourette's name, with his original signature (below) and the meters identified by MacDonald Critchley (above)

recent. Interestingly, the 1936 edition of the Larousse French encyclopedia contained a dozen of lines on him, whereas the 1960 edition did not even mention him.^[5] The name of Gilles de la Tourette resurfaced in the medical literature only in the late 1960s, as interest in the syndrome that bears his name grew after clinical observations that marked a “paradigm shift” in its understanding.^[6]

A word of caution about the name “Georges Gilles de la Tourette” is warranted. In a 2013 letter to the journal *Nature*, it was observed that French aristocratic last names (such as the last name of French Jesuit philosopher and paleontologist Pierre Teilhard de Chardin) are often misinterpreted in English.^[7] Gilles de la Tourette is no exception to this unfortunate tradition. Although “Gilles” is part of the compound last name and not a middle name, “Gilles de la Tourette syndrome” is often truncated to “Tourette syndrome” (or even abbreviated as its acronym “TS”) in the scientific literature. *Nihil sub sole novum*: in his recent biography of Gilles de la Tourette, Walusinski notes that as early as in 1886 (i.e., 1 year after his landmark publication on the syndrome that bears his name), “Gilles de la Tourette’s name was being amputated by North American authors!” And not only by them, as the authors of the present article have to admit.^[8]

THE LIFE OF GEORGES GILLES DE LA TOURETTE

Georges Albert Edouard Brutus Gilles de la Tourette [Figure 2] was born in 1857 in a village near the city of Loudun in the West-central region of France, called St. Gervais-les-Trois-Clochers. Reports about him from the time when he was in secondary school describe a highly intelligent, creative, and versatile, albeit hyperactive and somewhat troublesome, young man.^[5]

Gilles de la Tourette studies medicine at the University of Poitiers before moving to Paris in 1881. In 1884, he was invited by Jean-Martin Charcot to join his department at the Salpêtrière Hospital in Paris. In the same year, Charcot asked him to “bring



Figure 2: Georges Gilles de la Tourette (1857–1904)

some order to the chaos of choreas,” a word that was used at the time as a collective term for abrupt involuntary movements.^[9] This surge of interest in hyperkinetic movement disorders was partly in response to the recent description of the “culture bound” startle syndromes. These conditions were called “latah” (observed in Malaysia), “myriachit” (observed in Siberia), and “the jumping Frenchmen of Maine.”^[10,11] The latter syndrome had been described in an 1880 article by the American alienist George M. Beard, translated in French by Gilles de la Tourette in 1881 when he was still a medical student.^[12] The jumpers were of particular interest in that their condition had a childhood-onset, showed a pattern of heritability, and was most prominent in males. Gilles de la Tourette felt that the three startle syndromes were representations of the same underlying condition and that the type of motor disorder was separate from chorea.

In 1885, Gilles de la Tourette published in the *Archives de Neurologie* an article that featured a case series of nine patients sharing a triad of symptoms: Motor/vocal tics (involuntary movements – referred to by Gilles de la Tourette as “motor incoordination” – and vocalizations), echolalia (involuntary repetition of another person’s words), and coprolalia (involuntary swearing).^[13] Neither Gilles de la Tourette nor his contemporaries seemed aware of the significance and future relevance of this publication. One of the nine cases reported in the 1885 article had been previously published in the year 1825 by another French physician, Jean Itard, director of the Royal Institute for Deaf-Mutes in Paris.^[14] This was the case of the Marquise de Dampierre, a French noblewoman who became famous because of her involuntary movements and obscene utterances. On this note, it is worth quoting Charcot’s own words, as reported in Walusinski’s biography of Gilles de la Tourette: ^[5] “In Parisian high society, there was a person of the most aristocratic circles who was known for uttering filthy words. I did not have the honor of knowing her; I met her 1 day on my way up the stairs from the Salon; and I was surprised to hear her suddenly say “shit” and “fucking pig.” The “cursing Marquise” (as she was sometimes called) was thought to have died in 1884. Of note, neither Gilles

de la Tourette nor Charcot ever had a chance to examined her, despite having made her observation emblematic of the disease they were describing.^[15-17]

Despite realizing that the initial description was incomplete and the definition of tics as “motor incoordination” was inaccurate, Charcot was apparently keen for the condition described by Gilles de la Tourette to be named after his pupil. It was apparently during a clinical meeting in 1885 when Charcot decided that the condition then known as “tic confulsif” should be named after Gilles de la Tourette, who was 27 years of age at the time.^[18] One of Gilles de la Tourette’s *et al.*, Paul LeGendre, commented on his friend’s honor: “Not everyone gets to Corinth; still fewer get a disease named for them. We do not know if our friend had the first of these fortunes. Dr. Charcot who certainly is the best judge in such matters declared this year at a clinical meeting that the neurological disease of Gilles de la Tourette is an entity of sufficient special characteristics to be named for our friend.”^[19]

Although Gilles de la Tourette is remembered for the syndrome that bears his name, his main scientific interest was hysteria, together with its popular treatment, i.e., hypnosis. In fact, he regarded his three-volume “*Traité clinique et thérapeutique de l’hystérie, d’après l’enseignement de la Salpêtrière*” (published between 1891 and 1895^[20]) as his major accomplishment [Figure 3]. It is interesting that in the collective memory about Gilles de la Tourette, 1800 pages on hysteria are eclipsed by a single article on a subject that only briefly captured his imagination.

In 1887, Charcot asked Gilles de la Tourette to become his scientific secretary, a position which he immediately accepted. One of his tasks was to take the minutes of the clinical lessons and clinical demonstrations given by Charcot during the famous “*Leçons du mardi*” at the Salpêtrière hospital [Figure 4]. In the same year, Gilles de la Tourette also got married to his cousin Marie Detrouis. He went on to have four

children; however, he was not described as either a family man or a man who attracted many friends, partly because of his eccentric, excitable, and impatient character and his tendency to work at a frantic pace.^[21,22] His energy and enthusiasm did, however, attract the admiration of some of his students.^[23]

Together with French physician Paul Richer (1849–1933) and photographer Albert Londe (1858–1917), Gilles de la Tourette founded the celebrated journal “*Nouvelle Iconographie de la Salpêtrière*” in 1888. In 1892, he published in this journal an article on the successful treatment of Parkinson disease by means of a shaking chair developed by Charcot and a vibrating helmet connected to an electromotor devised by himself.^[24] Gilles de la Tourette argued that his therapeutic helmet could also alleviate the symptoms of insomnia, neurasthenia, depression, and impotence.

Multiple challenging events occurred in 1893, Gilles de la Tourette’s *annus horribilis*. To start with, he lost his young son Jean to meningitis. Then, on the August 15, shortly after Gilles de la Tourette’s visit, his mentor Jean-Martin Charcot suddenly died at the 8 age of 67 years. Finally, on the December 6, he was the victim of an assault that nearly cost him his life. On that day a 30-year-old woman called Rose Kamper, who had been a patient at the Salpêtrière hospital, went into a rage in Gilles de la Tourette’s apartment in Rue de l’Université 39, pulled out a gun and fired three times.^[21,25] Miraculously, none of the bullets hit Gilles de la Tourette’s vital organs, and he survived the attack. This sinister episode became a *procès célèbre* seeming superficially to vindicate the Nancy School’s views that criminal suggestion was possible under hypnotism, a view that both Charcot and Gilles de la Tourette had vehemently rejected.^[26-28] Despite long-lasting mental health problems, Rose Kamper lived until the age of 92, dying in 1955 as an inpatient in Sainte-Anne mental hospital.

A few years after his attempted assassination, Gilles de la Tourette himself fell prey to mental disturbances, which were

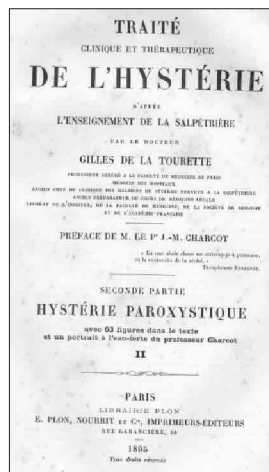


Figure 3: Front cover of Gilles de la Tourette’s “*Traité clinique et thérapeutique de l’hystérie, d’après l’enseignement de la Salpêtrière*” (second volume, published in 1895)



Figure 4: *Une Leçon Clinique à la Salpêtrière* (“A Clinical Lesson at the Salpêtrière”) by French painter André Brouillet (1887), featuring both Gilles de la Tourette (sitting in the first row, wearing a white apron) and Charcot (standing next to the patient)

thought to be the consequence of neurosyphilis. He developed increasingly more severe erratic behaviors and in 1901 (shortly after he had been nominated Chief Physician for the 1900 World's Fair in Paris) was sent to sick leave for an indefinite period. Following a severe manic episode, his former mentor's son, Jean-Baptiste Charcot accompanied Gilles de la Tourette, his wife and children, to Switzerland. Charcot's son was able to persuade Gilles de la Tourette that a famous inpatient living in an asylum in Lausanne needed his assistance: Gilles de la Tourette dutifully walked into the asylum on the way to his consultation. While he was held in one of the asylum's wards, his condition progressively worsened, and he developed full-blown psychosis, until his death in 1904, at the age of 46 years.

THE LEGACY OF GEORGES GILLES DE LA TOURETTE

The 1885 article by Gilles de la Tourette featuring the case series of nine patients with tics, echolalia, and coprolalia went largely unnoticed. Twelve years before, an 1873 monograph by the famous French physician Armand Trousseau had described a few patients with motor and vocal tics, noting their hereditary character.^[29] Gilles de la Tourette briefly mentioned Trousseau's observations on the nature of tics in a critical way.^[30] In his landmark 1885 publication, Gilles de la Tourette did not refer to an article published in 1884 by British neurologist John Hughlings-Jackson, who produced a single case report on a patient with tics seen in London at around the same time when he was collecting his nine cases.^[31]

The current definition of Gilles de la Tourette syndrome as a complex chronic tic disorder focuses on the presence of multiple motor tics plus at least one vocal tic, whereas complex vocal tics such as echolalia and coprolalia are no longer listed among its diagnostic criteria.^[32] The modern criteria have sometimes been applied retrospectively to diagnose famous historical characters with Gilles de la Tourette syndrome.^[33] However, this is only the most recent part of a medical story that was characterized by at least three major turns^[34-37] [Table 1].

According to Meige and Feindel's influential 1902 study, "Les tics et leur traitement," only a minority of persons with tics fit Gilles de la Tourette's initial description.^[38] The opening chapter of Meige and Feindel's book was titled "Les confidences d'un tiqueur" and explored the subjective account of a patient with tics (Mr. O, referred to as a "modeltiqueur") through a series of lengthy and candid conversations. These authors argued

that most tics resulted from uncorrected infantile habits in the context of hereditary weakness. Meige and Feindel's hereditary view proved compatible with eugenics, and it also paved the way to Freudian explanations of early childhood sexual repressive conflict. The first modern clinical-descriptive stage was followed by a psychoanalytic-psychosocial stage: Since the French neurologists did not have any definitive explanation for tic disorders other than a sign of degeneration, psychoanalysts postulated a psychological basis. In 1893, Sigmund Freud (1856–1939) had held that tic disorders were neurotic in nature and their cause could only be found by delving into the unconscious.^[36] In 1921, Hungarian psychiatrist Sándor Ferenczi (1873–1933) referred to tics as "stereotyped masturbatory equivalents."^[39] Under the leadership of psychoanalyst Margaret Mahler (1897–1985), a generation of the American psychiatrists learned that the symptoms described by Gilles de la Tourette were signs of a deeper psychosexual disturbance, albeit informed by organic factors. Mahler's clinical case histories led to the conclusion that tic disorders resisted psychoanalytic interventions because the role of the tic was the last "desperate defense against psychosis."^[40] Along these lines, in 1948 Eduard Ascher, professor of psychiatry at the Johns Hopkins University, suggested that the complex vocal tics echolalia and coprolalia "were related to certain attitudes (...) toward one or both parents, and also constituted an attempt to suppress their expression."^[41] As an example of the pervasiveness of such psychoanalytic view, which persisted virtually unchallenged for a few decades, it will suffice to quote the conclusions on three case descriptions of patients with Gilles de la Tourette syndrome published by Heuscher in 1953:^[42] "They are analogous to an early infantile stage and may be considered as regressive conditions, since a direct causal link with this stage apparently exists. The latter offers an acceptable form of existence to which the patient occasionally returns temporarily because he cannot bear continuously the conflicts which have arisen during his ego formation. The intermediate states of consciousness and the accompanying symptoms (tics, shrieks, echolaly, echopraxy, and koprolaly) fulfill therefore a double role: Regression to a more tolerable stage with immediate more or less symbolic expression of inner tensions or conflicts, and avoidance of a psychotic break." In the later words of Shapiro *et al.*,^[4] "this speculation about the patients' unconscious is totally incorrect."

In 1961, Seignot published a scientific report of a patient with tics effectively treated with the antidopaminergic medication haloperidol.^[43] This paper is often regarded as the first steps toward a further "paradigm shift" from the psychoanalytic theories to the current genetic and neurochemical theories on the etiology and pathogenesis of Gilles de la Tourette syndrome. Seignot's observation was replicated in a series of subsequent publications, starting with Caprini and Melotti's case report, which appeared in the same year.^[44] In a 1965 review of the literature,^[45] Diane Kelman found only 44 authentic descriptions of Gilles de la Tourette syndrome in all medical publications worldwide between 1906 and 1964. The

Table 1: Main historical stages in the history of Gilles de la Tourette syndrome since Gilles de la Tourette's initial description

Stage	Prevailing paradigm
1885–1900	Descriptive
1900–1960	Psychoanalytical
1960-present	Neurobiological

view of Gilles de la Tourette syndrome as a rare and somewhat bizarre psychologically driven condition was meant to change dramatically over the years that followed Seignot's paper.

The introduction of an effective pharmacological agent to control tics led to the speculation about a neurochemical substrate on which medications work. Specifically, the unprecedented success of haloperidol in controlling tics by blocking dopamine receptors in the brain suggested that might, therefore, be an excess of dopaminergic neurotransmission. The American psychiatrists Arthur and Elaine Shapiro promoted the description of Gilles de la Tourette syndrome as a neurological disorder that by definition stood in opposition to psychoanalytic claims.^[4] This paradigm shift in turn kindled interest in tracing the genetic basis of Gilles de la Tourette syndrome, a line of research which has flourished from the 1970s to the present days when it has been recognized that the phenotypic variability of the clinical presentations of Gilles de la Tourette syndrome corresponds to its genetic heterogeneity. The development of *in vivo* neuroimaging techniques over the following decades led to converging findings that further substantiated neurobiological theories on the pathophysiology of tic disorders. It is curious to note that at the end of his 1885 article, Gilles de la Tourette had written “as for the underlying lesion, we have found no anatomic or pathologic cause,” possibly hinting at a yet undetected neurobiological substrate for his syndrome.^[13]

It is often said that genius and madness go hand in hand and it is tempting to speculate that Gilles de la Tourette's own life and long-lasting legacy exemplify this saying. He might not have disagreed. One of the surprising documents from the Loudun archives recently retrieved by Olivier Walusinski is a short poem written by Gilles de la Tourette in 1890, presumably while on holiday in Switzerland.^[5] The first line reads “Savez vous bien c'est qu'est un <<fou >>?” Walusinski in his scholarly biography of Gilles de la Tourette translates this as “Have you ever seen a <<fou>>?” (where <<fou>> is a French term indicating both the fool and the gannet bird). He aptly comments that “Gilles de la Tourette can be seen here as mocking himself since he must have realized that many of his friends and colleagues considered him a little crazy.” Genial – or, rather, “génial!”

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