

Neurosyphilis and classical music: the great composers and “The Great Imitator”

Neurossífilis e música clássica: os grandes compositores e “A Grande Imitadora”

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ABSTRACT

Throughout history, neurosyphilis has victimized many people, including classical composers, with a wide range of clinical presentations. **Methods:** Six articles with descriptions of composers with possible neurosyphilis were reviewed. **Results:** Neurosyphilis is a possible diagnosis for composers like Beethoven, whose progressive hearing loss influenced his career, culminating in complete deafness. In his autopsy, cochlear nerve atrophy and cochlear inflammation were described. Donizetti developed behavioral changes, as well as headaches, general paresis and seizures. Both Schumann and Wolf suffered from personality changes, persecutory delusions and general paresis. Joplin and Delius also had symptoms attributed to syphilis. Autopsy findings confirmed the diagnosis of Smetana, who developed dementia, deafness and auditory hallucinations with rapid progression. His tinnitus was musically represented in his first String Quartet. **Conclusion:** Neurosyphilis victimized several notorious composers. It can be argued that neurosyphilis was a major source of inspiration as well, being responsible for the genesis of musical masterpieces.

Keywords: Neurosyphilis; music; composers, history of medicine; neurology.

RESUMO

Através da história, a neurossífilis vitimou milhares de pessoas, incluindo compositores clássicos, com uma grande gama de manifestações. **Métodos:** Seis artigos com descrições de compositores com possível neurossífilis foram revisados. **Resultados:** Neurossífilis é um diagnóstico possível para compositores como Beethoven, cuja perda auditiva progressiva influenciou sua carreira, culminando com surdez completa. Em sua autópsia foram descritas inflamação e atrofia dos nervos cocleares. Donizetti desenvolveu alterações comportamentais, bem como cefaleias, paresia e convulsões. Tanto Schumann quanto Wolf sofreram com alterações comportamentais, delírios persecutórios e paresia. Joplin e Delius também tiveram sintomas relacionados a sífilis. Achados de autópsia confirmaram o diagnóstico de Smetana, que desenvolveu demência, surdez e alucinações auditivas rapidamente progressivas. Seu tinito foi musicalmente representados em seu Quarteto de Cordas No. 1. **Conclusão:** Neurossífilis vitimou diversos compositores de destaque. Pode-se argumentar que a doença chegou a ser grande fonte de inspiração e mesmo responsável pela gênese de diversas obras-primas.

Palavras-chave: Neurossífilis ; música ; compositores, história da medicina; neurologia.

Before the advent of antibiotics, syphilis was a highly prevalent entity¹. Although its range of manifestations was vast, earning it the nickname “The Great Imitator”, some of the most severe symptoms came from the involvement of the nervous system, hence – neurosyphilis. The disease ravaged Europe in centuries past, regardless of social status, victimizing artists, thinkers and musicians alike, seven of whom had symptoms compatible with the diagnostic hypothesis of neurosyphilis (Figure 1). Previously, their illnesses have been described individually or in articles about syphilis. However, none of the articles grouped and discussed the specific cases of composers with neurosyphilis.

METHODS

The aim of our study was to describe the morbid history of seven composers, highlighting how their disease influenced their output, with diagnoses of neurosyphilis ranging from presumptive to most certain. As laboratory testing only became available in the 20th century, many received the diagnosis of syphilis during or after their lifetime based solely on clinical features, certainly leading to overdiagnosis; therefore, when available, postmortem findings were included as well. Six articles about cases of syphilis in composers were selected from PubMed[®] and reviewed, as well as references in

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

Received 16 March 2018; Received in final form 09 July 2018; Accepted 10 August 2018.



a musicology textbook, which were used for cross-referencing historical data.

Review of the disease

Neurosyphilis, typically a late manifestation of *Treponema pallidum* infection, though it can appear in any phase of the disease, is characterized by a myriad of presentations, such as general paresis, tabes dorsalis, headaches, meningeal signs, personality changes, sensory changes (hallucinations, delusions), seizures, and Argyll Robertson pupils, among other signs and symptoms. Sexual transmission allowed for massive dissemination of the disease in times past.

Case reports

Ludwig van Beethoven: The German composer, born in 1770, was a major force in the transition from Classicism to Romanticism, and is remembered today as the greatest composer of all². However, his career was affected by severe hearing loss, starting in 1796. Progressive in character, this loss culminated in total deafness in 1815, which had a profound impact on his activities, as he was deemed unfit to conduct and forced to compose with the rudimentary hearing improvement equipment available at the time. By 1802, so despairing was he of his affliction that he considered suicide, and wrote his Heiligenstadt Will, to be sent to his brothers. The master's diagnosis has proved elusive but, among the proposed diseases, one may include neurosyphilis¹, given his habits as a student in Vienna, where he may have contracted the disease from a prostitute. Other suggested diseases include lead poisoning, Paget's disease, otosclerosis, and

typhus. He died in 1827 from end-stage liver failure. Cochlear nerve atrophy and cochlear inflammation were described in his autopsy.

Gaetano Donizetti: Born in Italy in 1787, the great *bel canto* opera composer² developed syphilitic symptoms at the age of 31³; he suffered from severe headaches, unexplained fevers, seizures and gastrointestinal problems, evolving to nuchal pain, confusional state and personality changes that cost him many commissions. After treatment at the Hôpital de la Salpêtrière in 1846, where he was described as having slowing gait and delusion, he was institutionalized in Ivry. Mirroring his famed character, Lucia di Lammermoor, he was declared insane in 1847. He died the following year, psychotic, with general paresis, aphasic, feverish, with encopresis, enuresis and seizures. His autopsy revealed abnormalities commonly found in general paresis such as ventricular dilatation and meningeal adhesions to cerebral parenchyma, compatible with chronic meningitis and encephalitis.

Robert Schumann: Born in 1810, Schumann became one of the most influential composers of the Romantic era. For most of his life he dealt with severe depression and neurological symptoms, which were attributed to syphilis by his physicians¹. In 1850, he developed persecutory auditory and visual hallucinations. He attempted suicide by drowning in 1854, but would die in 1856, delusional, with progressive paresis and frequent mental state fluctuations. He wrote in his diary: "I was a syphilitic, treated with arsenic"⁴, which may have worsened his symptoms. Due to the long evolution of his disease, the definitive diagnosis remains elusive.

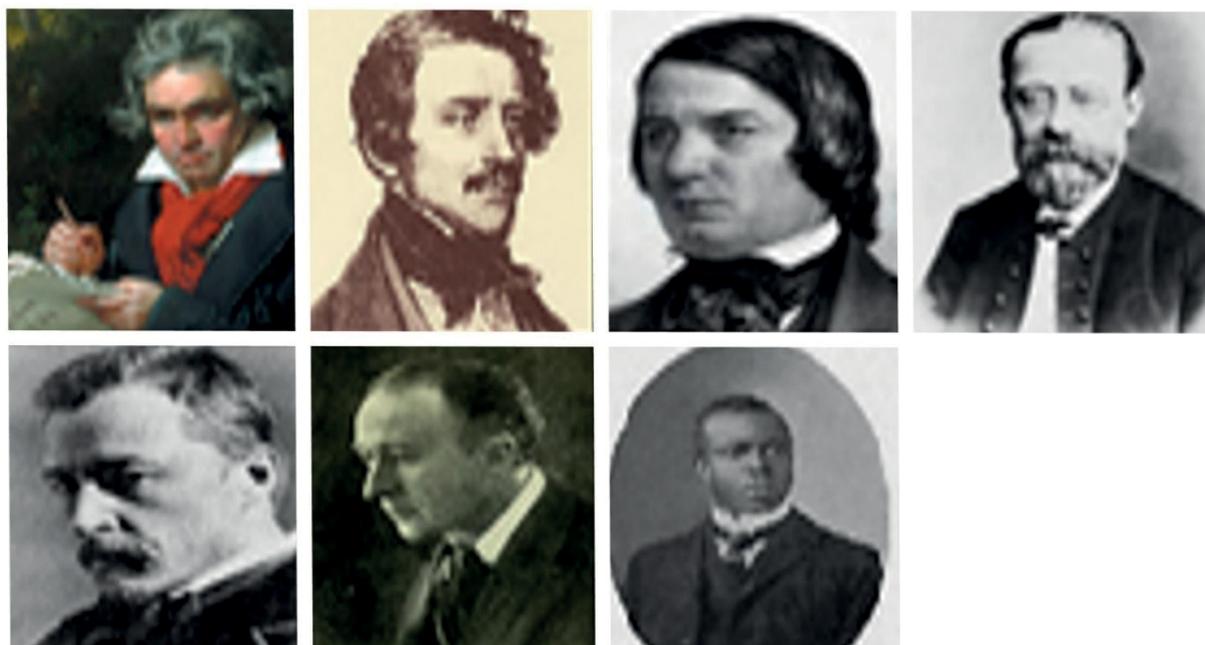


Figure 1. From left to right: top - Ludwig van Beethoven, Gaetano Donizetti, Robert Schumann, Bedrich Smetana; bottom - Hugo Wolf, Frederick Delius, Scott Joplin.

Bedrich Smetana: Born in 1824, near Prague, Smetana became an icon of the Czech nationalist movement due to his symphonic cycle *Má Vlast* ("My Fatherland")². In March 1874, he described in his diary a "suppurative ulcer"¹; in July of that same year he wrote of cutaneous eruptions, outlining the natural history of syphilis. Rapidly progressive in nature, his disease had caused near absolute deafness and auditory hallucinations by the end of the year. His String Quartet No.1, subtitled "From My Life", dates from this period; wherein he represented his tinnitus as a long, high E, played by the first violin⁵ (Figure 2). Confusion, memory deficits, visual hallucinations, aphasia, and gait alterations appeared in 1882. He died demented, at age 60. His autopsy confirmed the diagnosis of neurosyphilis with meningeal thickening, ventricular dilatation, and cortical and cochlear nerve atrophy.

Hugo Wolf: Born in 1860, the Austrian composer was one of the masters of lieder, the German song tradition². In the 1890s, a syphilitic infection, acquired during his student years, began causing nightmares that evolved to delusions of grandeur, proclaiming he was the *de facto* Music Director of the Vienna State Opera, the greatest theater of his time. After a year, and a suicide attempt, he developed general paresis. Delusional and suffering from depersonalization, he claimed that he "would like to be Hugo Wolf". He died at age 42, utterly demented⁶.

Frederick Delius: The English composer, born in 1862, acquired syphilis in 1885². He married in 1903 but refused

to have children, as he was concerned about transmitting the disease. However, he declined medical treatment, looking for relief in hypnosis and homeopathy. In the 1910s, he developed amaurosis and progressive paresis. He continued to compose until his death in 1934⁶; incapable of writing music by himself, he hired an amanuensis, to transcribe his compositions⁷.

Scott Joplin: The American ragtime composer was born in 1868, and acquired syphilis in his 20s. Neurological symptoms appeared in 1908, with loss of refined motor skills, memory deficit, cognitive impairment, behavioral changes and delirium⁶.

All of these composers' different signs, symptoms and autopsy findings (when available) are supportive of neurosyphilis and are summarized in the Table.

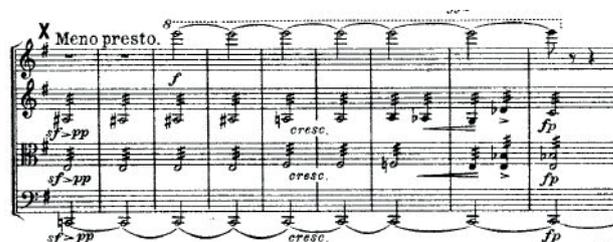


Figure 2. Smetana's musical realization of his tinnitus: a high-pitched forte E, played as a harmonic by the first violin.

Table. Distribution of signs and symptoms of neurosyphilis in different composers.

Variable	Beethoven	Donizetti	Schumann	Smetana	Wolf	Delius	Joplin
Mental confusion		X		X	X		X
Depression		X	X				X
Delusions		X	X		X		X
General paresis		X			X	X	
Dementia		X	X		X		
Deafness	X			X			
Hallucinations			X	X			
Memory deficit				X			X
Aphasia		X		X			
Gait abnormalities		X		X			
Facial paralysis				X			
Amaurosis						X	
Abdominal pain		X				X	
Tabetic crises						X	
Headaches		X					
Seizures		X					
Reported cause of death	Liver failure	Neurosyphilis	Neurosyphilis / pneumonia	Neurosyphilis	Neurosyphilis / dementia	Neurosyphilis	Neurosyphilis / dementia
Autopsy confirmation	X	X		X			
Autopsy's findings suggestive of neurosyphilis	Atrophy of cochlear nerves and cochlear inflammation	Ventricular dilatation, meningeal adherence to parenchyma and erythematous dura mater		Meningeal thickening, lateral ventricular dilatation, and both cortical and cochlear nerve atrophy			

CONCLUSION

While there were many causes of the often-untimely demises of great composers, syphilis, with its neurological manifestations, was a most devastating one. Neurosyphilis

changed their lives, influencing and often ending their artistic output. We can but imagine what else they would have composed had their lives and careers not been interrupted. However, one may also wonder how much of their music found fertile ground in the illness as a source of inspiration.

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