Ten Famous Composers of the Romantic Era and Their Causes of Death

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Highlights of the Study

- The cause of death of famous composers of the Romantic Era is related to epidemics and lifestyle.
- Complete clarity on the cause of death of famous composers of the Romantic Era is hard to achieve.

Keywords

Famous composers · Romantic Era · Cause of death

Abstract

The musical composers in the Romantic Era (1800–1910) strived for compositions that expressed human life, including happiness, harmony, and despair. They lived in a period in which freedom of thought, expression of emotion, and inspiration by nature predominated. During this period, intensive trading with other parts of the world brought new microorganisms along, which made infections and epidemics very common. This article serves to address the cause of death and relevant biographic data of a number of well-known Romantic composers. Primarily, this review refers to clinically significant findings using reports that were retrieved from PubMed, Embase, and Google over the 19th, 20th, and 21st centuries till 14th June 2021. This text dwells on diseases and the cause of death of ten composers, namely Mozart, Beethoven, Chopin, Schubert, Schumann, Mendelssohn, Brahms, Liszt, Mahler, and Bruckner. It is evident that from the perspective of modern medicine, symptoms and forensic facts are not complete, but witnesses' reports and recent medical research have provided passable and

plausible clarity. Although many questions will remain unanswered, it appears that the diseases of these composers and their causes of death have their origins in alcohol abuses, age, epidemics (like tuberculosis), and syphilis.

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Introduction

The period 1800–1910 is commonly considered the era in which the Romantic style in arts became an important part of cultural life. Romantic music, as a successor of baroque and classical music, is generally characterized by its expression of emotion. The composers strived for compositions that expressed human life, including happiness, harmony, and despair. This new style is part of a movement in which freedom of thought, expression of emotion, and inspiration by nature predominate. Romantic music may not only be composed for a single instrument or just a few instruments like Chopin's nocturnes and Beethoven's string quartets but also for works with complex orchestrations like Mahler's and Bruckner's symphonies. Furthermore, Romantic composers did not use one fixed key or tempo in their compositions like Bach but

embraced chromatic tonality [1]. During this period, bacterial and viral diseases were common. This was the result of intensified trading with other (non-European) countries that brought contagions and spread horrible illnesses. This unfortunate situation had also the effect that many Romantic artists were visited by diseases for which no cure existed. You just have to listen to the chilling and demonic and desolate orchestral landscape of the slow movement of Bruckner's 7th, and do not forget the aggressive, apocalyptic, and despairing visions of cosmic pain in the third movement of his unfinished 9th symphony!

The Romantic period is a general description and not a clearly delineated period of 19th century musical development. In fact, Mozart died in 1791, before what is generally considered to be the Romantic period. However, his later works are reminiscent to the early works of Romantic composers like Beethoven and Schubert [2]. Thus, it seems appropriate to start this article with Mozart as he cleared the way and prepared the foundation for the Romantic music masters. This article serves primarily to address the cause of death of several well-known Romantic composers. This review refers to clinically significant findings and key medical data using reports that were retrieved from PubMed, Embase, and Google over the 19th, 20th, and 21st centuries until 14th June 2021. In addition, relevant biographic and medical data on the impact on their overall creativity and psychopathology are included.

Diseases and Causes of Death of Individual Composers

Mozart (1756–1791)

It has been documented that Mozart's income was insecure and irregular. Nevertheless, he enjoyed substantial revenues from commissions and public performances to pay for the costs of his gambling and copying the lifestyles of wealthy friends. But, money went through his hands like water often causing abject poverty and a necessity to frequently negotiate loans. Was there enough money to pay for medical care?

Mozart suffered from frequent and lengthy illnesses [3]. His documented pathography starts at the age of 6 years with scarlet fever, and until the age of 29 years, it includes, among other things, rheumatism, typhoid fever, smallpox, migraine, and pneumonia [4]. It is likely that the Mozart family could pay for all medical care through most of his life. However, in his last years, there was a decline of interest in Mozart's compositions and performances, and it is clear that his wealth was gone by the time

of his death [5]. Perhaps, this explains the tardy arrival of the family doctor Thomas Franz Closset who did not see his patient before he had enjoyed the whole performance of *La Clemenza di Tito*. He prescribed frequent bloodlettings and use of purgatives, possibly to battle the observed swelling of hands and feet, which may have spread to the whole body. Another person who was present was his pupil Joseph Eyblez, who helped the weak Mozart write down his last composition. Eyblez's handwriting is present on the autograph. Indeed, it seems that Mozart was obsessed with finishing the Requiem which he started to work on a few months before his last illness began about 20th November 1791 [6]. The features of Mozart's disease and his mental stress have been reported by his sister-in-law, the singer Sophie Haibl (née Weber), 33 years later to the Danish music historian Georg Nicolaus Nissen who wrote down her words. Mozart's wife Constanze, who later married Nissen, edited what he wrote, and this is the only more or less true testimony that exists about Mozart's death [7].

Unfortunately, no autopsy was performed, and Constanze, being short of money, could only afford a third-class funeral, the normal funeral for the poor people of Vienna. Since then, the cause of death has been the subject of many guesses. One author [8] mentions that altogether, 118 causes of death have been reported in medical historiography. These publications are merely based on Romantic stories and speculations, miscitations, and faulty use of present medical diagnostic criteria. Moreover, nondocumented medical findings such as headache, nausea, abdominal pain, paralysis, convulsions, and anemia have appeared in various publications [9].

To summarize, it seems more rational to rely on the eyewitnesses who reported progressive exhaustion and edema. In the weeks around Mozart's final illness, death from edema was markedly increased among younger men in Vienna attributed to tuberculosis and related infectious diseases [10]. Thus, it is quite possible that the exhausted Mozart died of a nonspecific contagious disease, leading to imminent death due to septic shock on December 5, 1791, aged 35 years.

Beethoven (1770–1827)

"The Romantic" musical style largely emerges from the "classical" one or so it is often said. In this respect, the compositions of Ludwig van Beethoven in his thirties can be classified as Romantic with roots that are reminiscent of classicism. His early works rely heavily on the classical Mozart, but Beethoven's symphonic work comprised around 1800 shows already broad and square melodic

structures, exemplary for the Romantic style of the nineteenth century.

When Beethoven died, he left behind 722 known compositions created over a period of 45 years. His works still form the core of the program for many classical music concerts. The style is overloaded with colorful instrumentalism and daring dissonant harmony. However, the composer who extended the classical harmonic language, the undisputed master of Romantic compositions, lived his later years in voluntary exile, plagued by much discomfort due to many diseases.

From his letters, it is known that he suffered from a gastrointestinal syndrome from 1792 and during the rest of his life. He complained of abdominal pain and diarrhea, vomiting, jaundice, and considerable physical weakness and joint pains [11]. It has been suggested that his diseases arose from inflammatory bowel disease, multi-system rheumatic disease, and renal necrosis [12, 13]. Also, Whipple's disease and sarcoidosis have been suggested [14, 15], but these posteriori analyses have never found further substantiation. In letters dated 1814, when Beethoven was 44 years old, he mentions his deafness for the first time. This hearing loss was progressive over the following years. Apart from these physical problems, contemporary composers, benefactors, and students also mention brusqueness, crudeness, alcoholism, and paranoia. In one of his uncontrollable outbursts of temper, he referred to his doctors as "medical asses," a typical example of his eccentricities and loss of decorum.

In his magnificent biography, Swafford [16] describes the results of the postmortem examination: liver cirrhosis, pancreatitis, diabetes mellitus, renal papillary necrosis, and inflammatory bowel disease. However, his middle ears showed no otosclerotic foci but shrunken cochlear nerves. It is tempting to connect this finding to the high levels of lead deep in the bone, which points to chronic lead intake. Beethoven liked red wine which in those days was tainted with lead. Chronic lead poisoning is consistent with his alcohol dependence, leading to progressive deafness. This suggestion makes sense and is a more logical explanation than an earlier suggestion of skull enlargement due to Paget's disease, which has been refuted by analysis of bone pieces of his skull [17]. In this context, recent excellent research by Reiter and Prohaska [18] discovered that the lead levels in a very small piece of Beethoven's hair medulla demonstrated an average exposure of 100 times the normal value of that time. The analytical technique that revealed this level consisted of a laser ablation that enabled the separation of the cortex and the medulla of hair. This piece of hair originated from the period in which Beethoven's phy-

sician Dr. Wawruch prescribed a treatment ("rigorous antiphlogistic therapy"), most likely containing lead acetate for a contracted pneumonia. This was a common medical practice of the time to treat persistent fever, although the handbook of Austrian Pharmacology cautioned for internal use. This lead poisoning has undoubtedly contributed to his illnesses and provides a sound explanation for the postmortem findings.

Listeners to Beethoven's works, either for piano, strings, full orchestras, or his single opera *Fidelio*, discover his creative gigantic genius. His complete oeuvre radiates authority and is divergent from the music of his contemporaries. He was a deaf man who withdrew within himself and that was practically absent from society in his later years. It seems that he was listening to his own inspiration until his death on 26th March 1827 at the age of 56 years.

Chopin (1810–1849)

The knowledge of Chopin's life is mainly based on his correspondence with various writers and composers including George Sand, Charles Hallé, Franz Liszt, and Honoré de Balzac. He became friends with these artists in Paris where he lived from 1831 till his death in 1849.

Born in Poland, he decided to move to Paris where he expected to develop and expand his musical talent. Indeed, he soon became a well-known and beloved pianist performing often in concert halls and salons. However, from his childhood, he suffered from weak health, and during the outbreak of an epidemic of influenza in 1837, he fell ill with high fever, recurrent coughs, and frequent episodes of hemoptysis. However, his family doctor Paul-Léon Marie Gaubert denied the diagnosis of tuberculosis like the other attending physicians. They just ignored pathological lymph nodes in the neck, diarrhea, night sweats, breathlessness, and the blood spitting [19]. They were convinced that he suffered from bronchitis. This is not surprising as doctors were often reluctant to diagnose the presence of tuberculosis because such a diagnosis, as with other infectious diseases, could have negative consequences for the social and economic positions of the patient [20].

To overcome his weak condition, on 1st November 1838, his friend George Sand (pen name for Amantine Lucile Aurore Dudevant, née Dupin) took him to Mallorca where the climate would be beneficial for his health, especially in wintertime. It turned out to be a horrid winter in Mallorca and Chopin was ill, often with fever and diarrhea, but strangely even so, he managed to compose his famous 24 preludes opus 28 in those days. However,

his continuing illness made him consult a local doctor who diagnosed tuberculosis, and the rumor spread quickly over the town of Valldemossa where he and George Sand lived. As a result, the locals avoided their place the way they would avoid an enemy!

On 1st February 1839, George Sand and Chopin went back to France where Chopin's health became worse. He lost weight, was pale, and looked unhealthy and ailing, but his diseases seemed to settle spontaneously. Yet, typical drawings of Chopin, made in the 1840s, showed him "barrel-chested," which may point to an obstructive pulmonary disease. Despite negative clinical findings, it is documented that Chopin's last 10 years were characterized by a rapid deterioration in health. He spent his last years vegetating, suffering from neuralgia, cephalia, and edema of the extremities [21]. This was reported in 1847 by the painter Eugène Delacroix, the only friend who regularly visited him and with whom he had pleasant encounters [22]. Chopin's last compositions were two *bou-rée's* and a *mazurka* in F minor opus 68 nr 4, composed between 1846 and 1848. The Polish pianist Julian Fontana, who had known Chopin very well, wrote that in 1848, he was too weak to play his own compositions.

So, what was Chopin's cause of death? Chopin gave instructions to open his body after his death and take his heart out as he was very afraid of being buried alive. Also, he was convinced that the medical profession never properly diagnosed his illnesses. Professor Jean Baptist Cruveilhier, chief anatomist and pathologist at Paris University, performed the autopsy. Unfortunately, his medical report got lost, but Chopin's sister Ludwika, discussed the autopsy results later with Cruveilhier. It turned out that Chopin had an enlarged heart, but he did not attribute Chopin's disabilities to tuberculosis. He removed the heart in agreement with Chopin's wish, and it was brought to Warsaw where it is preserved in alcohol in a jar at the Holy Cross Church.

In various papers, his cause of death has been named lung tuberculosis, but this is hypothetical. Recently, new theories have begun to emerge: Chopin may have suffered from undetected cystic fibrosis or possibly a genetic form of emphysema due to a deficiency in alpha-1-antitrypsin. This protease inhibitor protects lung tissue from aggressive proteolytic enzymes and regulates the pulmonary immune system. Its deficiency is associated with chronic respiratory infections, emphysema, liver fibrosis, and ultimately with cirrhosis [23].

However, cystic fibrosis seems highly unlikely as this would have been fatal a few years after birth in those days. An examination of Chopin's heart took place in 2017. A

group of forensic and genetic scientists were allowed a visual inspection of the heart without opening the jar in which it is contained. They found that the organ was "generally enlarged with features pathognomonic for fibrinous pericarditis, multiple nodular foci-tuberculomas and fibrillary coating covering the whole surface of the pericardium ('frosted heart')... these pathologies fully justify... chronic cavernous pulmonary, laryngeal and intestinal tuberculosis... whereas rapidly progressing tubular pericarditis became the immediate cause of his death" [24]. Obviously, no histopathological testing for tuberculosis could be carried out. It is doubtful, though, whether any present tissue sample could still prove conclusively that it was tuberculosis that killed Chopin. It is not completely the end of the story as it has been agreed that in 2064, the jar may be opened for further examination.

Schubert (1797–1828)

In the early 1800s, many amateur musicians in Vienna loved to play Schubert's charming, playful, and dance-like music. These sessions were called "Schubertiades." They attracted guests who disliked the often reclusive and introverted music of the later Beethoven. Schubert's compositions are featuring surprising harmonic turns caught in sustained sonority, mysterious serenity, and colorful melodies with ornamental variations. In about twenty productive years, Schubert managed to write music with a balanced structure in which a highly personal lyrical style is integrated. This is recognized in his works for piano, strings (the Trout!), *lieder*, and symphonies. Nevertheless, listeners of Schubert's typically Romantic music may discover that he stood on the broad shoulders of the supreme Beethoven. An excellent article by O'Shea [25] mentions it is surprising that Schubert failed to gain due recognition in his time even though he had enthusiastic admirers and an appreciative audience. His unimpressive stature and personality at the keyboard did not help him in that respect.

When he was 25 years old, he contracted syphilis with visible symptoms such as recurrent skin infections (chancre), hair loss, and pustules. In 1823, he was admitted to Vienna General Hospital where he was treated with mercury, and his condition reportedly improved. Still, from his letters to his brother Ferdinand Lucas, it is known that he was depressed as he was continuously afraid that his illness would come back. In 1825, a friend reported "Schubert looks well and strong." Indeed, for about 3 years after his hospital stay, he was able to lead a reasonably normal life, although cursed with depression. During that period, he composed his last three piano sonatas

which convey a very desolate mood. Indeed, he wrote in a letter that he realized that his health would never improve and (“..... the joy of love and friendship can offer but pain at the most.....”). After a sudden deterioration of his health, Schubert’s brother Ferdinand moved him into his house on 31st October 1828. His 29-year-old sister Maria Theresia then assumed primary responsibility for his nursing care.

He suffered from headaches and panic attacks which may be due to the palliative treatment with mercury or due to a late tertiary symptom of meningovascular syphilis. In a letter to his friend Franz Schober dated 12th November 1828, Schubert describes how he was not eating or drinking anymore and that he had fever, joint aches, and hallucinations. In his feverish delirium, he cried that Beethoven was in the same room (he had been the torch-bearer at Beethoven’s funeral a year earlier). Finally, this genial composer of over 1,500 works died on 19th November 1828. He was a young man of only 31 years of age. Robert Schumann, who admired Schubert very much, said: “It is pointless to guess at what else he could have composed; he did enough.” Schubert is buried next to Beethoven and Brahms in the Garden of Honor at the Zentralfriedhof cemetery in Vienna.

Schumann (1810–1856)

Schumann’s music is uniquely personal. There is true originality in his *arpeggios* and broken chords, amply evidenced in his solo piano music. Schumann expanded the Romantic style with remarkable polyphony, exceptional transparency, and lyrical tenderness. The bulk of Schumann’s piano music composed during the 1830s consists of shorter pieces that were often united in larger pieces with names like *Carnaval*, *Kreisleriana*, *Scenes from Childhood*, *Humoreske*, *Forest Scenes*, and *Colorful Leaves*. Around 1840, he produced an extensive collection of *Lieder*, seeking “to recreate in a subtle musical realization the most delicate effects of the poems” by Heine, Goethe, and others [26].

In 1840, he married the distinguished pianist, Clara Wieck. During the first years of his marriage, he concentrated on orchestral works and finished the work on his piano Concerto in A minor. However, some years later, mood swings that had troubled him from his youth became worse. He started to have musical auditory hallucinations (“angelic voices”). He was admitted to a psychiatric hospital after a suicide attempt in 1854. This hospital admission was preceded by severe depressive periods, sleep disturbances, lethargy, deep sadness, and panic disorders.

In an unexpected development, his medical records turned up in 1991. They showed that he suffered from a “general (incomplete) paralysis.” In those days, this term served to describe symptoms of syphilis, which was confirmed in 1906 with a serological reaction to *Treponema pallidum* [27]. This infection, alcoholism, and self-starvation during his two-and-a-half-year stay in the psychiatric sanatorium are the most likely causes of death. His wife Clara was finally allowed to visit him a few days before his death on 29th July 1856. He was just 46 years old.

Mendelssohn (1809–1847)

Felix Mendelssohn Bartholdy was the child of a wealthy banker and did not know money problems. He was a musical child prodigy, and he gave his first public concert at nine years old. His exceptional intelligence reached further than music. Not only was he an eminent pianist, organist, and composer, he was also a very good watercolorist and poet. Interestingly, his sister Fanny was also an accomplished musician.

On 11th March 1829, Mendelssohn revived Bach’s St Matthew Passion in the St Thomas Church in Leipzig. This was the first performance after Bach’s death. Mendelssohn got the almost forgotten score through his grandmother, Bella Salomon, and her sister, Sarah Levy, who owned several of Bach’s hand-written scores. Mendelssohn used a translated version of this original score for this historic performance; a performance that elevated Bach’s work and contributed to his place in the world of music. Among Mendelssohn’s own most well-known compositions are those based on his visits to Britain, including the overture *Midsummer’s Night Dream*, the Scottish (3rd) Symphony, the *Hebrides*, and *Fingal’s Cave*. In 1835, at the age of 26 years, he attained the important position of music director of Leipzig Conservatory (together with Schumann, who soon had to resign for health reasons). Mendelssohn wrote harmonious music throughout his life. His compositions have an elegant looseness that brings it close to happy listeners. Shunning the overwhelming sounds of Beethoven, Mendelssohn alludes to the style of Schumann, a composer who tends to lyrical classicism. Mendelssohn avoided dramatic transitions, as illustrated in *Lieder Ohne Worte* (Songs Without Words) and his famous violin concerto.

Mendelssohn’s death has been the subject of an interesting publication by Breitenfeld et al. [28]. He was considered a friendly but introverted person, with weak health. The death of his sister Fanny, aged 42 years, had a huge impact on him, worsening his depression and diminishing his creativity. Only a few months after her

death, on 3rd November 1847, he suffered from a severe headache and became comatose. He died on 4th November 1847, at the age of 38 years. A speculative diagnosis is aneurysmal subarachnoid hemorrhage. His grandfather, sister, father, and mother showed similar symptoms in their final hours, which suggests a familial, but certainly intriguing, abnormality. Mendelssohn is buried at the Dreifaltigkeitsfriedhof in Berlin.

Brahms (1833–1897)

“Brahms is medium height, very squarely built... and makes the impression of having great strength. He is very short-necked... as if his head sits between the shoulders... his expression changes during conversation... now the eyes have become infinitely cordial and good...” This is the almost uncanny description given by the Danish composer Carl Nielsen when he had met Brahms. His appearance and mannerisms suggest the sound of his four symphonies. They are solid and massive pieces of work with gentle lyricism and full of harmony and sonority. Indeed, there is a continuity of colors, innovations in contra-melodies, and texture in the line of Brahms music. He was an all-round musician who edited Mozart’s Requiem and the works of Couperin. Also, he collaborated with Clara Schumann-Wieck in publishing the compositions of her husband Robert. He is often considered the last great representative of a Classical-Romantic tradition in music [29].

In his monumental biography of Brahms, Swafford [30] writes about his sad end. In 1896, after a largely healthy life, Brahms was feeling tired and fatigued. In July of that year, he developed jaundice. He was visited by Professor Anton Neumayr, head of the Second Department of Internal Medicine of Vienna University Hospital, himself being an excellent pianist. Also, Professor Hermann Nothnagel visited him and, in view of symptoms like outrageous hunger, nausea, itching, and bleedings, they reached the conclusion that Brahms suffered from malignant pancreas disease and liver abnormalities [31]. After a creative life in music, Brahms died in Vienna on 3rd April 1897. He was 74 years old. An autopsy was not performed. However, based on the symptoms, it has been suggested that the cause of death was neuroendocrine pancreatic cancer with liver metastasis and liver failure [32].

Liszt (1811–1886)

In Romantic compositions, like those of Beethoven and Chopin, the resolution was an integral part of the work. By contrast, Liszt’s compositions radically changed

the character and nature of music by demonstrating great tension, without reaching a resolution. In this way, he altered this fundamental principle of the Romantic style, paving the way for later composers such as Prokofiev, Bartok, Ravel, and others [33].

Living in Paris, Liszt was a public soloist who moved in the good company of other artists including the writers Alfred de Musset, George Sand, Victor Hugo, and Honoré de Balzac and composers such as Niccolò Paganini and Gioachino Rossini and the painter Eugène Delacroix. Obviously, he felt inspired by this “beau monde” to compose music with ideas from literature (“Après une lecture de Dante”), nature (“Au bord d’une source”), and images (“Les jeux d’eau à la Ville D’Este”). All these and other works from the same period in his life are of sophisticated virtuosity and quivering harmonies.

At the age of 67 years, Liszt composed *Via Crucis*, a work in 15 sections, which is considered the most sacred composition of this very pious composer. By that time, Liszt had settled in Weimar. He suffered from depression, as well as a number of physical ailments that included peritonitis, cataract, and arthritis. However, despite his health, he continued traveling, giving concerts, and teaching piano [34]. On 2nd July 1881, he fell down the stairs of his hotel (reportedly, he drank one bottle of cognac and two bottles of wine per day!). The attending physician required him to remain immobile for 8 weeks. Friends who visited during this time noted edema in both legs and dyspnea. After this period of recuperation, Liszt was well enough to resume long travels through Europe and to give concerts for many years. However, on 18th July 1886, he fell seriously ill with coughing and fever while visiting the Wagner festival in Bayreuth. The condition turned into chest pain and dyspnea. On 31st July, Professor Richard Fleisher of Erlangen University Medical Faculty diagnosed pneumonia and prescribed heavy wines and champagne. A few hours later, Fleisher injected Liszt’s heart with camphor. Liszt died a few minutes later. Officially, Liszt died of pneumonia. However, an interesting article by Perciaccante et al. [35] reviewed the cause of death. The authors concluded that he already suffered for a long time from asymptomatic thrombosis that eventually turned into recurrent pulmonary thromboembolism. This caused chronic heart failure and was the ultimate cause of his death.

Born on 22nd October 1811, in Dorbojan/Raiting in Hungary (Austrian Empire), Liszt died 31st July 1886, in Bayreuth, Germany, at the age of 74 years. Against his will, as Liszt was a devout Catholic, this most gifted pianist of his era was buried at the Bayreuth’s Lutheran Town Cemetery.

Mahler (1860–1911)

His ninth and last complete symphony was composed by Mahler between 1908 and 1909. By that time, his physical powers were ebbing away due to cardiac problems and perhaps felt that also his musical journey was coming to an end. The finale of this four-movement symphony has the tempo indication *adagio* but at the heart of it is the indication *sehr langsam und noch zuruck haltend* (very slow and ever slower). Its hymn-like beginning mutates into a tonality full of despair, depicting the horror of death. These feverish intense last minutes, marked in the autograph as *ersterbend* (fading away), in which he almost refuses to hand over his music to the sound of silence, have often been qualified as Mahler's musical testament. Indeed, his doctor told him a year earlier that he had not long to live. Mahler died in 1911 without ever hearing the Ninth. It was premiered in 1912 by his friend and disciple Bruno Walter and the Vienna Philharmonic Orchestra.

Was the finale of the Ninth really his musical testament? There is not much to make one believe so. It can be argued that Mahler, who had a frail condition, experienced a lot of stress. He has been the victim of an anti-Semitic campaign, and there were various traumas in his personal life. Above all, he did not take life easily, being a perfectionist who elaborated and refined his compositions in many details and required endless rehearsals as a conductor. But, after completing his heartbreaking finale of the Ninth, he embarked on composing his unfinished tenth symphony with a vital and creative energy in his own style of indescribable beauty that does certainly not feel as a musical testament. Mahler's "sufferings" explain very little about his music [36].

In February 1911, Mahler was conducting a series of concerts in New York when he was struck by severe tonsillitis with high fever. He had already suffered attacks in the previous months which he obviously ignored to fulfill his musical obligations. This time he was too ill to conduct. The physician Joseph Fraenkel visited Mahler in the Savoy Hotel where Mahler was staying. He was afraid that the patient suffered from subacute bacterial endocarditis and required a consult by the physicians Emanuel Libman and George Baer who were the specialists in bacteriology at Mount Sinai Hospital in New York. The seriousness of the situation was recognized once Mahler's blood culture confirmed the invasion of *Streptococcus viridans*. His attending doctors decided "to wait and see" but gave him a last chance at the Institut Pasteur in Paris where the bacteriologist André Chantemesse had developed an experimental serum with antibodies against this specific bacte-

rium from other patients according to a method described by Horder [37]. It is reported this treatment made Mahler's condition even worse but also gave him some better days later, even though he would soon die. According to his last wish, the terminally ill Mahler died in Vienna after a rapidly arranged transport by an ambulance and train. It was 18th May 1911; Mahler was just 50 years old.

Bruckner (1824–1896)

Not every conductor has a full comprehension where Bruckner's symphonic lines come from and where they go to. In fact, it is not always easy to understand the choral-like style, the long conspicuous pauses, and the majestic slowness during the exposition of his symphonies. For audiences accustomed to Beethoven symphonies, this musical process was often too much, and Bruckner had to wait until the final decade of his life to enjoy his much desired public recognition in Vienna.

His last few years were marked by obsessive disorder and a degrading mental state evidenced by counting the number of notes in each bar and bars in each phrase [38]. In January 1896, Bruckner was transported in the Big Concert Hall of the Musikverein in Vienna to listen to his *Te Deum*. The audience was confronted with a frail old man who could hardly walk, recovering from pneumonia. About 2 months before his death, he wrote in his notebook that he had a sort of contract with God and that he prayed for good health in order to finish the Ninth. This and other writings in his notebook showed that he was increasingly confused and that he was obsessively engaged in composing the fourth and final part of his ninth symphony as he felt it was an unfinished work. Although he wrote to a friend that he completed this finale, after his death, only some 200 sketches were discovered. Around that time, his old friend Josef Schalk visited him and reported that Bruckner's spirit was leaving him and that recovery was out of the question. Shortly before his death, the composer Hugo Wolf also paid a visit to Bruckner and wrote that he was no longer in full possession of his mental faculties. It would have been very difficult for the young Wolf to see his much-admired elder Bruckner [39]. Then, just before dying, on his very last day, Bruckner tried again to write a finale for his Ninth, but he was unable to organize his ideas (<https://www.abruckner.com/Data/document/>). A few hours later, he passed away quietly. Doctors reported that he died of a heart valve defect. His mental condition was not mentioned. Bruckner was obsessed with death and requested to be displayed for 5 days and to be embalmed in Vienna by Professor Paltauf and to use formalin for the procedure. Afterward, his

body was buried in Linz under his favorite organ at St Florian Monastery Church of the Lateran rule. The morbid neurosis of Anton Bruckner is evident from the chilling despair that resounds from the third movement of his unfinished ninths symphony (G. Predota, personal communication).

Conclusion

The death of composers in the 19th century is inextricably bound up with the state of medical sciences in that era. As it was not until the end of the century that fresh views on disease and treatment broke through, effective medicines were not available to treat the composers mentioned in this article. Yet, by the end of the century, fresh views on disease and treatment broke through. Microorganisms had been discovered already in the 18th century, but it was Robert Koch who discovered that bacteria cause transmission of disease late in the 19th century. He identified the tubercle bacillus and found a remedy against tuberculosis (“a brownish fluid”) [40]. Around the same time, there was the start of the use of vaccines. Jaume Ferran i Clua developed a vaccine against cholera. Notably, Vladimir Wolf Haffkine used a small number of bacteria to produce immunization against plague [41]. It was not until the 1930s that antibiotic compounds were discovered.

As was brilliantly portrayed in Milos Forman’s film *Amadeus*, Mozart worked frenetically on the composition of his last masterpiece *the Requiem*. He was seriously ill in those days, and he may well have been aware of his imminent death. Mozart was not the only composer who worked intensely in their last weeks or days. Bach, Smetana, Bruckner, and Tchaikovsky also worked “until their dying breath.” Obviously, their creativity was not ultimately affected by their physical condition. However, the brain can remain active even in the last few hours of life. In these cases of these exceptional composers who worked to the end, it is conceivable that brain areas involved in emotion and creativity stayed active close to death. If it would have been possible to study the brains of great composers, it is unlikely that significant morphological, histological, or other biological differences from the “common” brain would be found. However, recent research using functional magnetic resonance imaging has demonstrated that increased activity in specific hemodynamic patterns and neural circuits is associated with emotion evoking music (happy, sad, fearful, or tender). This is related to activation in the auditory, somatosensory, and motor cortices as well as the amygdala and re-

lated structures [42]. Thus, it can be assumed that emotion leads to creativity and vice versa, but this has not been investigated using functional imaging, either functional magnetic resonance imaging or positron emission tomography.

Finally, it needs to be mentioned that the cause of death of famous composers who lived and worked in the Romantic Era has been a source of speculative discussion among art historians, musicologists, and the medical community. In most cases, the historic accounts of witnesses and medical reports of the time prove to be generally trustworthy sources of passable and plausible clarity. However, in the eyes of modern medicine, symptoms and forensic facts are neither complete nor conclusive. Based on what we know, the likely diagnoses and causes of death are related to age, epidemic diseases like tuberculosis, and symptoms associated with alcohol abuses or syphilis. It is worth noting that syphilis has marked European history since the 15th century [43] and that pandemics of infectious diseases were more common than rare. Also, tuberculosis has affected populations for many centuries [44]. Therefore, in view of their personal contacts and other aspects of lifestyle, it is not surprising that the composers mentioned in this article have been affected by these diseases. However, definitive formulations for the cause of death for each of these composers are likely to remain elusive. Thus, although we do not know for certain how each of these composers died, there is no question about why their music lives on.

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Statement of Ethics

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