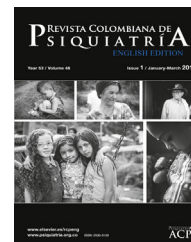




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Epistemology, philosophy of the mind and bioethics

Did Mozart suffer from Gilles de la Tourette syndrome?☆



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ABSTRACT

The personal and private lives of great men and women in history, like writers, painters and musicians, have been the subject of great interest for many years. A clear example of this is the vast scrutiny is cast over the famous composer, Wolfgang Amadeus Mozart. What may have started as curiosity, rapidly evolved into extensive research, as the answers about the musician's legendary talent may lie in the details of his life (his childhood, his relationships, his quirks and his mannerisms). It is usually up to historians, anthropologists or philosophers to delve into the pages of old books, trying to grasp answers and clues. However, for some time, physicians have sought their own part in solving the puzzle. The long told hypothesis regarding Mozart's diagnosis of Gilles de la Tourette syndrome will be examined. Could all of the peculiarities and oddities of the genius be caused by a neurological disorder? Or was this musical genius just an eccentric brilliant man?

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¿Mozart padeció síndrome de Gilles de la Tourette?

RESUMEN

Por años, la vida privada de los grandes hombres y mujeres de la historia, escritores, pintores y músicos, ha sido objeto de gran interés. Un claro ejemplo de esto es el gran escrutinio que se ha hecho sobre el aclamado compositor Wolfgang Amadeus Mozart. Lo que posiblemente comenzó como simple curiosidad rápidamente se convirtió en una investigación

Palabras clave:

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exhaustiva, pues en los detalles de su vida (su infancia, relaciones, mañas y manierismos) podría estar la evidencia de su legendario talento. Usualmente, son los historiadores, antropólogos y filósofos los que se sumergen en las páginas de viejos y ajados libros tratando de encontrar respuestas y pistas; sin embargo, desde algún tiempo, los médicos han reclamado su propio papel en la resolución de estos interrogantes. Este artículo explora la hipótesis sobre el posible diagnóstico de síndrome de Gilles de la Tourette para Mozart. ¿Todas las peculiaridades y rarezas del genio podrían estar causadas por un trastorno neurológico o se trataba solamente de un hombre brillante y excéntrico?

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Introduction

Wolfgang Amadeus Mozart (1756–1791) is considered by many to be the best composer of all time.¹ He left behind over 600 pieces of work, including more than 50 symphonies, 27 vocal concertos, 26 works for string quartets, 25 piano concertos, 21 operas, 17 piano sonatas, 15 masses and 12 violin concertos. Several of his works are considered some of humankind's best musical creations.² However, despite his genius and fame, Mozart's life was short and he suffered great financial difficulties and multiple diseases, including scarlet fever, smallpox and typhus. It is said that he used a language (spoken and written) associated with behaviours that have led several authors to consider the possibility that the Austrian genius may have suffered from Gilles de la Tourette syndrome, described by the French neurologist after whom it was named in 1885. The main characteristics of this condition are: simple and complex vocal and motor tics, which arise between 2 and 15 years of age and persist for over 12 months. Onset should not occur after 18 years of age. Coprolalia, coprographia and copropraxia may be present in 30% of cases. Symptoms decrease with the passage of time and are significantly reduced in adult life.^{3,4}

This article draws a parallel between the life of the musical genius and the main findings that indicate this possibility.

Biographical data

Wolfgang Amadeus Mozart was born on 27 January 1756 in Salzburg. He was the son of Leopold Mozart (1719–1787), a composer at the Salzburg court, and Anna Maria Pertl (1720–1778). His parents married in 1747 and had six children, only two of whom reached adulthood: Maria-Anna, known as “Nannerl” (1751–1829), and Wolfgang Amadeus (Amadeus means “loved by God”)⁵ (Fig. 1). Wolfgang married Constanze Weber (1763–1842) in 1782 and the couple had two sons, Karl (1784–1858), who was a trader, and Wolfgang (1791–1844), a composer and pianist.¹

Variations of the genius's name

It is well known that Mozart introduced himself with different variations of his name depending on the region, era or a particular whim at the time. His middle name, Amadeus, as

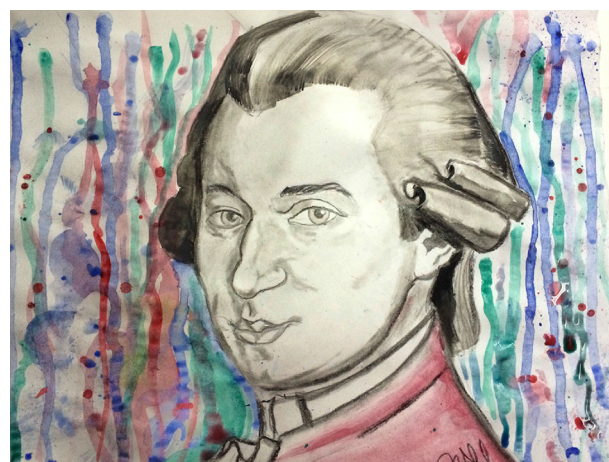


Fig. 1 – “Loved by God”, illustration by María Camila Vélez.

we know it today, seems to be a “joke” or, rather, another of his uncontrollable and amusing impulses. The most common are “Wolfgang Amadeo”, as he called himself in Italy in 1770, and from 1777 onwards, “Wolfgang Amadé”, which was possibly his favourite, as this was the name he used to sign his certificate of marriage to Constanze.⁵

However, other more exotic variants included “Wolfgang Gottlieb” and “Trazom” (Mozart backwards). He only used “Wolfgangus Amadeus Mozartus” as a joke or gag, as seen in letters where, as well as his name, both the date and other words end in -us, which is ironic, given that it ended up being the name that stuck after the 19th century to the present day.⁵

If we examine this situation in detail, it can be inferred that perhaps this custom of using multiple names was not only an eccentric trait, but also evidence of uninhibited complex tics and impulses that could be explained by Tourette's.⁵

Mozart's early life was marked by his artistic genius. Figures as important as Goethe, Grimm, Haydn, Wagner, Kierkegaard and Barth spoke in glowing terms of his extraordinary talent.¹

As soon as his father discovered his musical skills, he decided he would do everything he could to turn him into a great musician and to devote the rest of his existence to educating his children.¹ Fortunately for humanity, Leopold was an excellent teacher. Although he was always strict when imparting lessons to his children, instilling a sense of ethics and effort, he managed to make music lessons fun. This enabled

Table 1 – Illnesses that Mozart may have suffered according to various authors.^{7,9}

Age	Date	Place	Symptoms	Presumed diagnosis
6 years	1762	Vienna	Fever, rash	Erythema nodosum
6 years	1762	Salzburg	Fever, polyarthritis	Rheumatic fever
8 years	1764	Paris	Fever, odynophagia	Tonsillitis
9 years	1765	The Hague	Prolonged fever	Typhus
10 years	1766	Munich	Fever, polyarthritis	Rheumatic fever
11 years	1767	Vienna	Smallpox flare-up	Smallpox
Adolescence–adult life	–	Multiple cities	Coprolalia, copropraxia, tics	Gilles de la Tourette
16 years	1772	Salzburg	Jaundice (doubtful)	Hepatitis (doubtful)
29 years	1784	Vienna	Fever, colic, vomiting	Gastroenteritis
34 years	1790	Vienna	Toothache	Dental abscess

both of them to excel, at least in principle, alongside each other.⁶

Mozart had virtually no other teacher. At 6 years of age, he played short pieces of music that his father carefully turned into scores (minuets K. 1, 2, 3, 4, 5). By then, Leopold felt it was time to perform at the courts of Europe.¹

The trips were exhausting, the weather conditions sometimes harsh and Mozart had ill health. He is known to have suffered from scarlet fever, recurring tonsillitis, smallpox and typhus. He ate irregularly and undertook excessive physical and intellectual work, which affected him considerably. He also suffered from symptoms of jaundice, which were probably linked to viral hepatitis (Table 1).⁷⁻⁹

Later, he followed Hieronymus, the Prince-Archbishop of Salzburg, to Vienna, who mistreated him. Following an altercation, he decided to move into the Weber family home in the capital. In 1782, he married Constanze Weber. He then began to encounter significant financial difficulties, which would last for the rest of his life.¹

Mozart had great successes, such as the opera *The Marriage of Figaro*, which premiered in Vienna on 1 May 1786. He would enjoy even greater and more lasting success in Prague. In this city, Mozart had admirers like in no other. His triumphs were celebrated and sessions are described in which he demonstrated his extraordinary improvisation skills. A music impresario by the name of Bondini asked him to write another opera, and thus *Don Giovanni* was born, which he premiered and conducted on 29 October 1787, with extraordinary success.¹

He returned to Vienna, where his poor financial circumstances persisted, in addition to his wife's health issues. Mozart was also named the Emperor's chamber composer, but his earnings remained insufficient. He sought to improve them by undertaking different music-related activities, including composing, teaching and conducting, but the conditions were extremely difficult.¹

The last three years of his life were marked by enormous financial and emotional hardship, but were, from an artistic point of view, the most fruitful.

His last three symphonies, considered by experts to be the most beautiful, were composed over a six-week period in 1788. *Così fan tutte* ("Women are like that") was written in Vienna in 1790, and he composed three other important pieces in 1791 simultaneously: *The Magic Flute* and *The Clemency of Titus*, for the coronation of Leopold II in Prague, and *Requiem*, a piece commissioned by a mysterious character who wished to remain anonymous.¹

Between 1780 and 1790, the great composer started to present significant depression. He was visited by a mysterious character who entrusted him with composing a requiem mass in exchange for 30 ducats. The master composer accepted the proposal.⁸ He suffered episodes of loss of consciousness, probably syncopal, and started to think that he was writing his own requiem mass, that his days were numbered, he was being poisoned and that his deterioration was evident. At the end of November, in a state of dismay, he worked a bit more on composing the piece, but while working on the *Lacrymosa*, he burst into tears and felt he was unfit to finish it. Mozart issued instructions to his student Süssmayr, with whom he spent most of his time in the final few months. Mozart was convinced he had been poisoned, and even claimed it had been with Aqua Tofana, a substance containing lead.⁸

With admirable talent and respect, Süssmayr, following the death of his teacher, filled the gaps in the work (only *Requiem* and *Kyrie* were completely finished) and wrote *Sanctus* and *Agnus*.¹

Aged 36, the greatest genius in the history of music died on 5 December 1791 at around one o'clock in the morning. His death certificate stated "miliary fever" as the cause of death.¹ However, subsequent analysis of his medical history, which has been extensively studied by various authors, reveals that the most probable cause of death was actually chronic nephritis and, in turn, end-stage kidney disease.⁷

Mozart's personality has been described as frivolous, eccentric, restless and unpredictable, and he expressed himself with exaggerated grimaces and gestures. His friend Joseph Lange, the husband of Aloysia Weber, saw Mozart's need to expose himself and his radical decision to let himself go as a way of escaping all that had been denied to him throughout his life. His music did not communicate his state of mind, but rather his process of self-control.

Mozart and Gilles de la Tourette syndrome

Feug and Regeur were the first to suggest that Mozart might have suffered from Gilles de la Tourette syndrome at the World Congress of Psychiatry in Vienna in 1983, due to descriptions of the composer's scatological behaviour and the way in which the film *Amadeus*, directed by Milos Forman and scripted by Peter Shaffer, characterises the protagonist.⁴ The famous and award-winning film vividly illustrates the fascinating and eccentric peculiarities of the genius and overwhelms the spectator with the vast charisma of the musician, who was loved by



Fig. 2 – Illustration by Juan Pablo Liévano.

some and supposedly infuriated others. It is worth mentioning that both the play and film are based on the theoretical rivalry between Mozart and his counterpart Antonio Salieri, of which there is no evidence but fiction and which, despite how thrilling it appears in the stories, seems to have been a professional relationship of mutual admiration. So much so that Salieri was, for some time, the music tutor of Mozart's youngest son, Franz Xaver, who was later renamed Wolfgang Amadeus Mozart Jr.¹⁰

Despite the fact that Wolfgang Amadeus Mozart was a musical genius, many authors have questioned how such an important figure could present such peculiar behaviour, characterised by grotesque vocabulary especially directed towards his relatives, his mother, his father, his sister and his wife, as well as stereotyped involuntary movements, which are evident in his letters; for this reason and due to various reports by his relatives, the possibility of the syndrome was proposed, and included in the list of his possible illnesses (Fig. 2). In 1980,¹¹ Benjamin Simkin, an endocrinologist, pianist, musicologist and historian, carried out a detailed study of 371 of Mozart's letters, and found scatological language (coprolalia) in 39 of them, which represents a prevalence of 10.5%²; this is one of the characteristics of the syndrome, in which different areas of the brain are activated, including the ventromedial region of the prefrontal cortex and the right precentral gyri.² Moreover, the musician is not only known to have used this language in his letters, but also in the dialogues he sustained, above all with the distinguished Viennese aristocracy.¹²

Mozart's accentuated allusions to buttocks, genitals and defecation gave rise to a publication in which Simkin states that there is sufficient evidence to consider that the musical genius might have suffered from Gilles de la Tourette syndrome.⁴

The first group of letters in which such scatological language is found were written after Mozart's successful tour of Italy, where moments of the artist's great excitement are also described.

At 21 and 25 years of age, he wrote letters to his cousin Maria Anna Tekla Mozart, in which obscene words are expressed between lines, interpreted by Simkin as the expression of a vocal tic in his writings. Apart from his language and having named one of his compositions *Leck mich am Arsch* ("kiss my arse"), various behaviours have been described, including his hyperactivity in relation to Gilles de la Tourette syndrome and repetitive hand, foot and facial gestures.¹¹

Although coprolalia is one of the characteristic symptoms of Tourette's, some studies have shown that this abnormality is not specific to the syndrome, which has been the subject of debate among some researchers, who feel that the scatological language exhibited by Mozart in his letters could merely represent a style of discourse and a manner of joking influenced by his family or the middle class to which he belonged,² and that it may not necessarily be attributable to a disease like Tourette's. It is also argued that Tourette's syndrome generally leads to other disorders in addition to coprolalia, such as notable palilalia, echolalia, learning or social difficulties, of which there is only very ambiguous evidence to suggest that Mozart exhibited these traits.¹³

Mozart's scatological language may have been a representation of his satirical and hypomanic humour, or an influence of his mother's sense of humour. Simkin studied the number of times in which members of Mozart's family used vulgar language in their correspondences, and found that Anna Maria, Maria Anna and Leopold used such language in 2.5%, 6.7% and 0.3% of their letters, respectively, while Mozart used vulgarities in 10.5% of his. With his research, Simkin supported the fact that Mozart actually suffered from coprographia, which adds weight to the Tourette's diagnosis.²

Mozart's biographers, who knew him or who were able to interview his relatives, his sister-in-law, his wife and the musicians he conducted, among others, also described facial motor tics and tics affecting other parts of the body. They also note a certain inability to stay still, and that he constantly moved his hands. He picked things up and seemed to be permanently playing with them: his hat, his pocket watch or the pockets of his clothes. Impulses he was unable to control and which led him to fleetingly touch other people are also described. Even the great French writer Stendhal, in his book *The Life of Mozart*, alluded to the restless impulses of the genius, commenting that "his features were remarkable only in their extreme mobility [...] He had a habit which is often associated with simplemindedness: his body was in perpetual and restless movement and either his hands were in constant motion or his feet were tapping the floor".¹² It is also said that he tapped one heel against the other and pulled spontaneous funny faces for no apparent reason. His motor activity was said to be even more notable whilst he was composing, and his wife stated that he would write his pieces while carrying out other activities such as playing billiards or conversing with friends. He would momentarily suspend the activity, write part of the piece and then carry on with what he was doing before. There is also evidence of vocal tics and coprolalia. As regards tics, it is noted that he would imitate animal sounds, particularly

cats meowing. Various relatives also described that he would often utter words they were not expecting him to say.⁴

Kubba et al.⁸ note that he presented echolalia and palilalia, manifested in his speeches and in 17.5% of his letters.

In one of her letters, Wolfgang's sister-in-law Sophie Haible expresses the way in which Mozart played with his hands and feet, his trouser pockets and with tables and chairs as if they were a keyboard, as well as the gestures he made and how he constantly wiped his mouth with a napkin, which once again is seen as hyperactive behaviour and somewhat obsessive-compulsive.⁸ She also noted one of the composer's unusual habits. He used to say to his wife Constanze: "Never go out walking alone, it terrifies me". These may be signs of significant separation anxiety or even fear of impending doom.¹⁴

More alarmingly still, he exercised obsessive control over not only his own but also his wife's hygiene.¹⁴ "I entreat you to take the bath only every other day, and only for an hour. But if you want me to feel quite easy on my mind, do not take them at all, until I am with you again."

Caroline Pichler, cited by Kubba et al.,⁸ states that on one occasion, while Mozart was working on a fragment of *The Marriage of Figaro*, which also contains beautiful and improvised variations, his mood suddenly changed and he started to jump on top of the tables meowing like a cat and turning somersaults.

There were three more periods from which letters with scatological content can be found: 1783, 1789 and 1791, when he was composing his final two operas and *Requiem*.⁴

He died in grinding poverty. On 6 December, his lifeless body was found. He was later transported to St. Stephen's cathedral in a hearse, where a short funeral ceremony took place with only six people in attendance, subsidised by benefactor Baron van Swieten. Racked by grief, his wife Constanze had no energy to leave their home.⁸ Mozart's body was then transferred to the St. Marx cemetery, where he was buried in a simple communal grave at night. The exact location of the grave was lost with the passage of time. Years of investigations have not managed to locate it. In his honour, in his centenary year, the Austrian government decided to erect a monument with a contemplative angel backed by a column that honours the great musician, and there is also a physical space where visitors can pay tribute to him. In fact, there are always flowers adorning the monument.¹²

Discussion

Many authors have taken an interest in studying not only Mozart's medical issues, but also the possibility of him having suffered from Gilles de la Tourette syndrome. There is some evidence in favour, particularly that analysed by Simkin, but in turn others have found that there is not sufficient evidence to reach this diagnosis against the criteria used today. Given that these are secondary sources, missing information will always be a possibility. It is worth highlighting that the syndrome had not yet been identified in his lifetime (1756-1791), with Gilles de la Tourette describing it in 1885.¹⁵

In order to try and understand the brain of one of music's greatest talents, various studies have been performed, including examinations of images of musicians' brains, and a large

quantity of grey matter can be observed in the Broca area and auditory cortex; likewise the brain's plasticity was seen to be involved in musical interpretation and listening, generating various emotions. It must be remembered that, for patients with Gilles de la Tourette syndrome, listening to music generates suppressive and evocative effects. It should also be acknowledged that people with Tourette's possess unmatched skills and talents and boast great creativity, which has been associated with bipolar disorders, though this has yet to be explained from a neurobiological perspective.¹¹

It is important to highlight that a vast number of authors and reports have tried to dissect the mind of the musician. This makes it difficult to distinguish between reality and assumptions. In this sense, it can only be hoped that some of the genius's peculiarities shed light on who he really was, whether he suffered from the syndrome or not and, harder still, his potential mental health status.

It could be argued that much of Mozart's behaviour was, in one way or another, a response to the unending grief that accompanied the genius until the end of his days. It is thus possible that the musician's hyperactivity and coprolalia were born out of the significant ups and downs he endured in his life, such as that the influential social circles of the era did not recognise his genius (Orlando Mejía), as well as the fact that he did not have a childhood like other people, or even the financial and family burdens he always bore. Nevertheless, these behaviours can also be explained by the manifestation of Gilles de la Tourette syndrome, given that it aptly fits the musician's character and his eccentric skills in particular.

The information available on his father (Leopold Mozart) is ambiguous: for some he was an opportunist who took advantage of his two children's incredible talent (Wolfgang and Maria Anna), while others argue that, thanks to the effort he dedicated to Wolfgang's musical tuition from such an early age, he equipped him with the tools to unravel all of his talent.

Mozart lived in a period in which musicians depended on patrons, aristocrats and the clergy, who were able to commission them to compose pieces for different occasions, and their conditions were often precarious.

It is completely admirable that, having overcome multiple medical, emotional and financial difficulties, Mozart managed to compose beautiful and remarkable pieces, and to become one of the greatest musical figures in the history of humanity.

The question posed by the authors in the title of this article cannot be resolved with the available evidence.

Conflicts of interest

None.

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