MOZART'S DEATH: A MUSICAL/AURAL DIAGNOSIS?

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The causes of Mozart's final illness and death remain a mystery, albeit clouded with much speculation, if not drama. The reason for this is not hard to find. He himself told his wife in the summer of 1791 that he was being poisoned, and 33 years later Salieri made a death-bed confession that he was the culprit. Puskin, other Russians and, much later, Shaeffer dramatised these allegations, which were lent credibility by the rivalries of the time, reflecting the jealousy of the older man for his more gifted junior. Arsenic, antimony and mercury poisoning have thus been proposed not only with malice aforethought, but also because of their frequent inclusion in the proprietary therapies of the time and Mozart's frequent recourse to such medicines in the last six months of his life.[1] Amongst natural causes, chronic renal failure seems to be the most popular choice.[2 3 4 5 6] However, tiredness, pallor, headaches and vomiting remain non-specific features of uraemia, and many alternative causes of his death have been proposed.[7] As any nephrologist knows, a careful history can help greatly in identifying the nature and timing of renal dysfunction, but enuresis persisting beyond puberty, thirst, nocturia, and frothy urine are not normal matters for even personal correspondence. Indeed, with an average consumption of half a gallon of wine daily,[8] most other Viennese must have had to rise at night to pass urine, and even those with polyuria would hardly notice thirst.

I would like to strengthen the case for his demise in renal failure by reference to two aspects which have hitherto been ignored, his anatomy and his music.

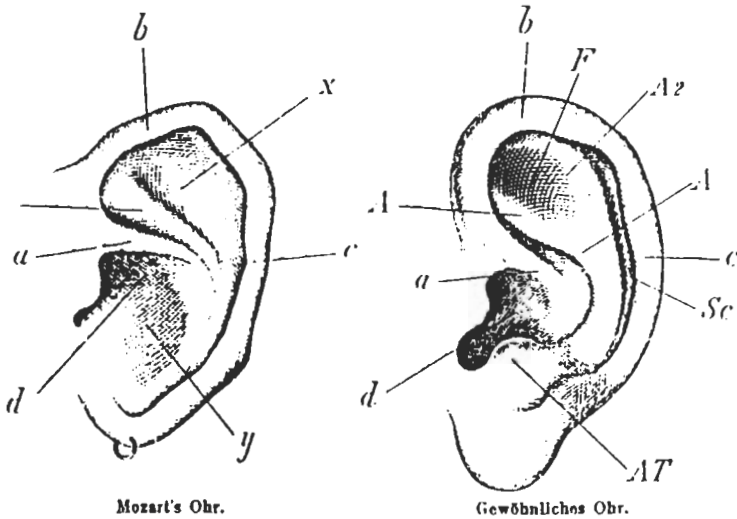
1) **Anatomy: 'Mozart's Ear'** (Figure 1)[9]

Both Mozart and his youngest son Franz Xaver Wolfgang had an abnormality of the external ear, resulting from the congenital absence of part of the cartilage (Mozart, in this sketch from Gerber's original paper also seems to have gained an earring). 'Pixie ears', which Mozart's resemble, with 'pixie facies' are associated with infantile hypercalcaemia and progression to renal failure in the third or fourth decade. It is now known, moreover, that congential abnormalities of the external ear are linked to other congenital abnormalities of the

genitourinary tract, from agenesis of one or both kidneys to ureteric and urethral defects and even hypospadias.[10]

FIGURE 1:

Mozart's left ear, compared with normal ear. From Gerber (1898).[9]



Mozart's Ohr. Gewöhnliches Ohr.

Mozart's short stature (and his pallor)[8] would also fit with significant renal disease from an early age.

2) **Music:**

In the face of the indirect if not questionable physical and symptomatic evidence for any given disorder, perhaps a search of the most abundant of the documentary material available, namely his music, has been long overdue. This represents a new approach and needs to be justified.

There are five other composers whose personal, medical, or psychosocial characteristics could find some identification in the music they wrote. Bach had twenty children, albeit spread over his mature lifetime, with a significant mortality. Nonetheless, there must have been some 4-8 persons in his household at any one time (excluding servants) for many years. His impatience with other constraints (e.g. committees, members of his choir) is well-known. How better, then, to formalise the noise and disputation that are found

in any normal home in terms of the fugue. Is it insignificant that the first fugue of the first book of the *Forty-Eight Preludes and Fugues* contains 23 entries of the subject, and that none have less than eight?

Beethoven had middle range deafness, and when this was developing marginalised his music, writing more for the extreme of the range both in piano compositions (e.g. the Waldstein piano sonata) and larger scale works (e.g. the *Missa Solemnis*).

Schubert's romantic nature is well expressed in the exuberant sexual fantasies of the first movement of his ninth symphony, where climax follows climax. By contrast his love for country walks is reflected in the ambulatory rhythms of the second movement.

Brahms died from carcinoma of the colon, so his prominent symphonic use of massed cellos for subjects characterised by their smooth, rich, warm, brown thixotropic quality, and the peristaltic passages of almost obstructive nature in the second symphony were, therefore, possibly of prognostic significance.

Tchaikowskis's homosexual trait became apparent only after his death, but is there not something 'AC/DC' about his use of 5/4 time in the second movement of the 'Pathétique'?

Mozart's music and its renal implications

Can any features be identified in Mozart's music that might give a clue to an underlying renal or genitourinary problem? We are looking for an unconscious marker, or trait, or manifestation of which Mozart was unaware. The eighteenth century was renowned musically for the use of ornaments to embellish the melodic line, such as trills and grace notes, and might not here be found part of our answer?

The need for micturition is sometimes expressed in terms of the need to 'go for a tinkle' a reference perhaps to the sound of urine striking a surface, either of porcelain or of water. Could not 'to go for a trill' or 'grace note' be an equally valid description? These, and other rushing sounds made by short runs of notes or 'twiddles' at the beginning or end of a bar do resemble the noise made by short intermittent spurts of urine. To be sure, water closets were not to appear until the following century, but terminal dribbles into a chamber pot already containing the contribution from a full bladder would not be dissimilar.

Fortunately, quantitative evaluation is possible. The table shows trills, grace notes, and twiddles in the music of Mozart and four of his contemporaries. Only symphonies and

TABLE 1

Composer	Symphonies Analysed	Dates	Bars Analysed	Per 100 bars: Trills	Per 100 bars: Grace Notes	Per 100 bars: Twiddles/ Rapid Runs	Per 100 bars: Total
Bach	4	Pre 1776	380	15.3	3.4	0	18.6
Dittersdorf D. Von	6	Pre 1780	514	8.6	7.2	3.9	19.7
Haydn, J.	6	1781-92	472	0.4	13.9	0	14.5
Haydn, M	7	1785-88	897	3.2	6.1	2.6	11.9
Mozart, W.A	9	1780-87	1039	7.3	3.2	10.5	21.0

Trills, gracenotes, and twiddles or rapid runs in the first 100 bars or so of the allegro parts of the first movements of the symphones of Mozart and four contemporaries. Twiddles or rapid runs include all demi-semi-quaver runs of 2-6 notes each, semi-quaver triplets, but not semi-quaver runs or turns unless clearly in a figure-of-eight pattern.

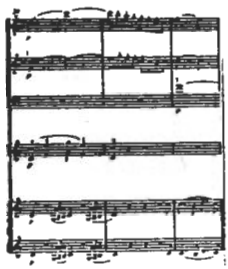
writers thereof have been chosen, since in operas, concertos, and chamber music embellishments were very much the order of the day. Italian composers have been excluded for their inevitable contamination by a florid operatic tradition. Since the use of ornaments declined rapidly over the last three decades of the century, only works from roughly the same period have been studied.

It can be seen that Mozart has more trills and twiddles (widdles?) than his closest contemporaries, the brothers Haydn, even though they tend to have as many, if not more, grace notes. Of the somewhat earlier composers one had more trills and the other more grace notes, but Mozart, again, had more twiddles and the total of these suggestive reminders of micturition (and possibly its difficulties) is still greater in his case.

Other urinary passages can be identified. A falling quaver scale after a long note (a minim or semibreve), as in the glowing entry, like falling golden rain, of the violin and viola in the Sinfonia Concertante (K364), the second subject of the 'Prague' Symphony (K504), and the counter subject to the 'twiddles' early in the 'Jupiter' Symphony (K551) (Figure 2) all

FIGURE 2:

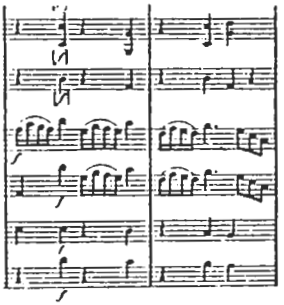
Falling quaver phrase in flutes, mimicking parabolic trajectory of urinary stream. Note semiquaver triplets in violins. From Symphony no. 41 (Jupiter) K551, first movement.



provide visual reminders on the musical page of the parabolic trajectory that a full stream of urine makes from the normal male urethra. The possessor of such an organ can, and frequently does, in my own experience, splash shapes such as figures of eight and sine waves in the air or on the ground. The former can be depicted in music by a turn (Figure 3) and

FIGURE 3:

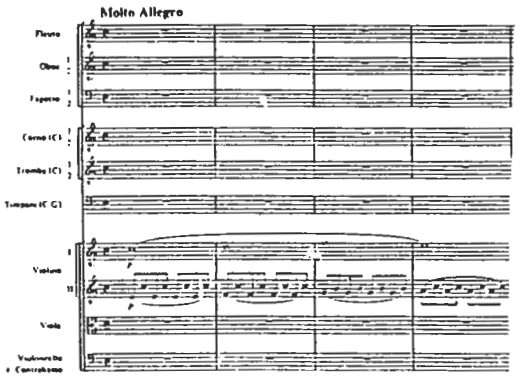
Semiquaver turns violins, resembling figure-of-eight shapes described by urinary stream in the air or on the ground. From Symphony no. 38 (Prague) K504, first movement.



the other by the device often used by Mozart to provide a somewhat livelier harmonic backing than merely repeated notes and chords (Figure 4).

FIGURE 4:

'Sine Wave' move quaver passage in second violins. From Symphony no.41 (Jupiter) K551, last movement.



Can these examples be used to suggest that Mozart missed the joys of the free passage of urine noted by the author of *Clochmerle*[11], whereby the peasant, suitably supplied with the local Beaujolais wine could find 'the indulgence of such little whims and fancies, as that of a jet well aimed that drives away a greenfly, bends a blade of grass, drowns an ant, or tracks down a spider in his web', and thus was lead unconsciously to build them into his music?

Mozart's short stature, his abnormal ear, and analysis of his music together uphold the view that an underlying congenital nephropathy or urological abnormality led eventually to chronic renal failure, and his death in uraemia.

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References

1. P.J. Davies, 'Mozart's Illness and Death - 2', *Musical Times*, 125 (1984), pp. 55-56.

2. J. Barraud, 'A quelle maladie a succombé Mozart?', *La Chronique Médicale*, 12 (1905), p. 737.

3. A. Greither, 'Mozart und die Arzte: Seine Krankheit und Sein Tod', *Deutsche Medicinische Wochenschrift*, 81 (1956), pp. 165-69.

4. G.P. Clein, 'Mozart: A study in renal pathology', *London University King's College Hospital Gazette* (1959), p.42.

5. E. Scarlett, 'The illnesses and death of Mozart', *Archives of Internal Medicine*, 114 (1964), pp. 311-14.

6. J. Fluker, 'Mozart: His health and death', *Practitioner*, 209 (1972), pp. 841-43.

7. P.J. Davies, 'Mozart's Illnesses and Death', *Journal of the Royal Society of Medicine*, 76 (1973), pp. 776-85.

8. A. Steptoe, 'Mozart as an individual', in *The Mozart Compendium*, edited by H.C. Robbins Landon (Thames and Hudson Ltd, London, 1990).

9. P.H. Gerber, 'Mozart's Ohr', *Deutsche Medicinische Wochenschrift* (1898), pp. 351-52.

10. D. Hilson, 'Malformation of ears as a sign of malformation of urinary tract', *British Medical Journal*, 2 (1957), pp. 785-89.

11. G. Chevallier, *Clochemerle* (Penguin Books Ltd., 1951).

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