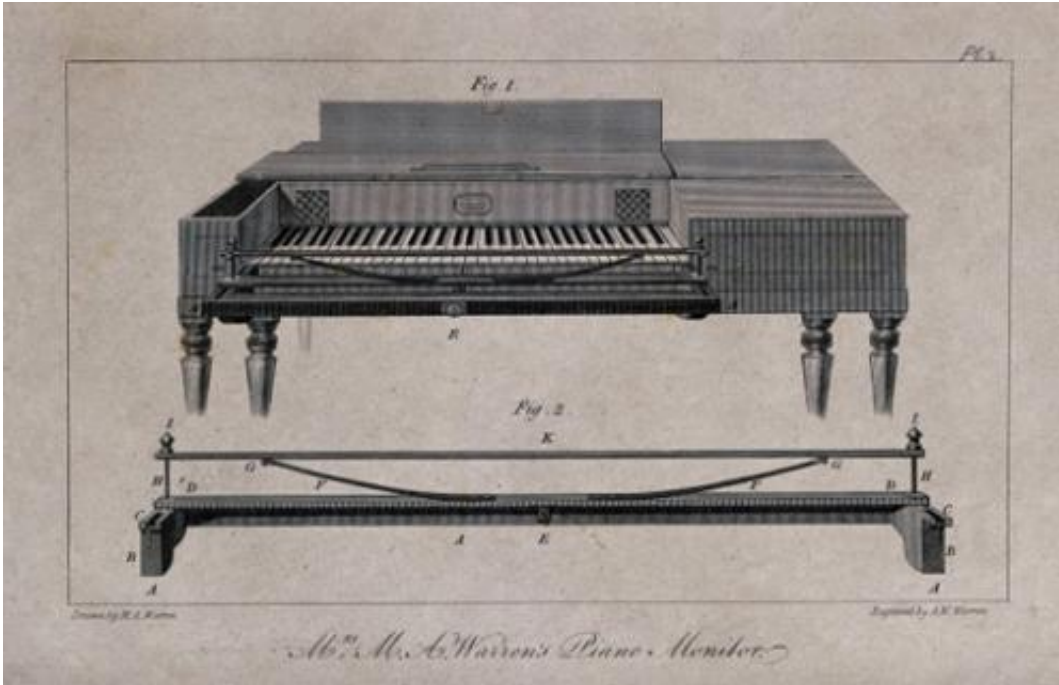


# Piano plague in D minor

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A piano with a monitor. Engraving by A W Warren after M A Warren. Credit: Wellcome Library, London.

Why would 19th-century doctors want to ban piano lessons for girls? Did they truly believe that learning to play music could cause sexual and neurotic disorders? Or were there sociological reasons for picking on the piano as a potential danger? Michael Regnier conducts a noteworthy investigation into the relationship between music, medicine and society.

For as long as there has been music, people have tried to control it. In

Plato's 'Republic', Socrates deemed the traditional lyre acceptable, but the new-fangled psalteries and harps were purged from the city for having "a wide a range of notes and modes". By the 19th century, science and medicine had been co-opted into arguments that certain forms of music were unsuitable for certain people. Today, new music can still spark concerns - sometimes hyped to hysterical proportions - that are couched in medical terms, even in the absence of any scientific evidence for the supposed effects.

A book published this summer - 'Bad Vibrations: The history of the idea of music as a cause of disease' - examines this trend. It describes several episodes of pseudo-scientific musico-moral panic, including the '[piano plague](#)' of the 19th century, which particularly intrigued me. I spoke to the book's author Dr James Kennaway, neurologist Professor Tim Griffiths and music scholar Dr Briony Cox-Williams to explore further the connections between music and medicine.

## **Exposition**

Two hundred years ago, the piano was a potent symbol of revolutionary movements in music, science and politics.

As its name was intended to convey, the pianoforte was the first keyboard instrument on which individual notes could easily be played soft ('piano') or loud ('forte'), adding more potential for musically dynamic performance. Its invention coincided with stirrings of a shift in musical aesthetics towards more personal expression and interpretation of the score. [Technical innovations](#) forged in the industrial revolution enhanced pianos' range and resonance, brought their prices down and made it possible for them to be built upright so they could fit into spaces less accommodating than aristocratic country piles.

For the burgeoning middle classes across Europe and North America,

empowered through the social and cultural consequences of civil wars and rebellions, the piano became the instrument of choice to play and display in their homes.

By the second half of the 19th century, music critic Eduard Hanslick was complaining about amateurs of all social stripes indulging their new passion in Vienna. He called it "die Klavierseuche", the piano plague: an epidemic of ivory-tinkling emanating from townhouse windows. Victims would play scales and exercises for hours on end, getting familiar chords wrong and constantly failing and starting again, jarring the ears and jangling the nerves of more sophisticated music lovers in the neighbourhood.

Hanslick's description of the proliferation of bourgeois piano playing as a 'plague' chimed with some contemporary medical attitudes to music, which had shifted significantly since the previous century.

In the 1700s, a private physician passing through his patron's stately home may well have smiled benignly upon hearing the daughter of the house practising on the piano. Indeed, he may even have prescribed it himself as a therapy for calming and refining the young lady's nerves.

Come the 19th century, however, doctors changed their tune to the extent that some of them wanted an outright ban on piano lessons for girls. As Dr James Kennaway, the author of 'Bad Vibrations' and a medical historian at the University of Durham, has written: "Many of the era's leading psychiatrists and gynaecologists argued that music could not only excite the imagination...but also over-stimulate the nervous system directly, playing havoc with vulnerable female nerves and reproductive organs, and warned of the consequences of music lessons on the developing bodies of teenage girls."

Kennaway stumbled across an account of the unhealthy effects of music

while flicking through an old gynaecology textbook in Wellcome Library. He checked other works to see whether this was an isolated case: every gynaecology textbook of the era that he looked in contained a reference to music in the index. However, the various books had very different explanations for how music affected women's health.

"French authors thought that playing music was a sensual, stimulating activity that could lead to early menstruation and sexualisation of young women," he says. "On the other hand, the Americans tended to argue that music was such a dry, academic subject for girls to study that it could delay or even prevent menstruation.

"They all agreed it was something to do with sex."

Modern neuroscience shows there is no foundation to their theories, which might suggest these men worrying about women playing music had political motives. Medicine, especially gynaecology, was often used to shore up traditional social structures, including the unequal roles of men and women. While acknowledging this, Kennaway says the doctors weren't necessarily consciously embellishing their casenotes, but may have been genuinely searching for an explanation of the symptoms they were seeing. As a relatively new phenomenon, piano lessons were worth investigating as a possible factor.

In the absence of reliable neurology, though, all manner of theories could flourish without any actual evidence, depending rather on the prevailing prejudices of the time and place in which the doctor was working.

## **Development**

"From my knowledge of Fanny, I should say that she has neither inclination nor vocation for [musical] authorship. She is too much all

that a woman ought to be for this. She regulates her house, and neither thinks of the public nor of the musical world, nor even of music at all, until her first duties are fulfilled." -Felix Mendelssohn, in a letter to his mother, 1837

Fanny Mendelssohn and her younger brother Felix grew up together in Hamburg and then Berlin in the early 19th century. Each was provided with a first-rate musical education and each showed a prodigious talent for playing and writing music. For Felix, this was sufficient to risk pursuing a career as a professional musician; Fanny, whose talent was no less than Felix's, could not dream of taking the same path.

Both continued to compose and perform, but while Felix did so in public to great acclaim, Fanny's works remained for the most part unpublished. She was restricted to trying to find time for her music amid looking for a husband and then looking after her husband and household, which society dictated should be her first and foremost responsibility. To deviate from that role would have been madness.

Creativity in women has always been a fraught subject, says Dr Briony Cox-Williams, a pianist and scholar at the Royal Academy of Music in London: "Women were not supposed to be proud of their accomplishments, regardless of how much talent they had, in music or any other public activity. Creativity was not seen as feminine, and not being feminine was linked to insanity - and still is."

Eccentricity, 'moral weakness', and even perversion could be tolerated in men of sufficient genius (Richard Wagner, for example, was "thoroughly perverted", according to Kennaway), but no amount of talent was enough to save a creative woman from the madhouse. Kennaway has previously described the fate of Parisian pianist Hersilie Rouy, who spent 15 years in Charenton asylum. Her psychiatrist "suggested that her insanity (which she vehemently disputed) had been caused by excessive music. In

a letter of 22 May 1869 he wrote that, 'she tired her nervous system by an excess of late nights and by her diligence in study and in her devotion to music'."



Couples amuse one another by playing the piano and singing. Wood engraving after George Du Maurier. Credit: Wellcome Library, London.

19th-century women did have one legitimate outlet for performing music, however: salons. Music was an important part of proceedings at these domestic social gatherings, and there was often a piano in the room for men and women alike to play for the assembled guests. In terms of how the piano developed as an instrument, the salon was just as influential as the concert hall.

Invented around 1700, pianos had quickly taken their place in aristocratic drawing rooms alongside existing domestic keyboard

instruments like the clavichord and the dulcimer. They were among the few instruments considered appropriate for women because they had a quiet, contained sound that suited contemplative playing in private rather than public performance. Like reading a poem out loud to fully understand its rhymes and rhythms, playing music was only intended to help upper-class ladies appreciate what made the great composers so good. It was not about putting on a show.

The piano seems to have offered manufacturers greater scope for innovation than the other keyboards. Technological advances in construction and in the action of the keys and hammers soon gave the piano a larger, brighter sound, which helped make it the instrument of choice for the salon. It wasn't long before it found its way in to the concert halls as well, first as an accompaniment (from around the 1780s), then as a solo instrument in its own right (from 1837).

Of course, at public performances, it was usually a man playing music composed by men. Music composed by women was considered an entirely separate genre, rarely heard in public but more common in the salon.

'Salon music' is a rather derogatory term these days, but in the 19th century, salons were hotbeds of artists and ideas. They seem to have escaped the attention of the doctors decrying female music-making - perhaps because those doctors weren't invited.

It was considered appropriate for a woman to be in charge of a salon because it was hosted in the home, the female domain. In fact, well over 90 per cent of salons were run by women. The 'salonnière' would often present herself as a muse for the artists, sculptors, philosophers, scientists, writers and musicians she invited to attend.

But far from being a passive presence, says Cox-Williams, these women

could use the salon as a sort of university: "A proficient salonnière could steer the intellectual direction of the group attending her salon to reflect her own tastes and interests. She was in control, she had right of refusal for guests, and she was able to learn what couldn't be learned by a woman elsewhere."

Fanny Mendelssohn established a famous salon in Berlin, though not until she had fulfilled her primary duties as a woman - finding a husband, giving birth to their son and establishing her household. As well as being an outlet for Fanny's compositions, and a socially acceptable place for her to play and conduct her own music, her salon became an essential part of Berlin's music scene. It was no mere drawing room with a piano and a few chairs, though: there was space for an orchestra and an audience of up to 250, and she regularly hosted full operas.

As the scale of Fanny's salon suggests, what took place there was not cut off from the public sphere. Nevertheless, the salon was a safe place for composers to premiere new pieces away from the attentions of the censors, and many preferred its relatively intimate setting to the grandiose public concert hall.

It particularly suited the style of Frédéric Chopin, the Polish composer and piano virtuoso, who often premiered work in salons or composed special arrangements of his orchestral works for them. As a pianist, he made full use of the piano's dynamic range, and where a very soft note might be lost in the concert hall, it would sing in the salon. He worked with a leading Parisian piano manufacturer, Camille Pleyel, to develop pianos particularly well suited to his style and the salon environment.

Chopin once said: "If I'm not feeling strong enough, I'll use an Érard; if I feel alert, I prefer a Pleyel." Sébastien Érard was Pleyel's great rival in piano-making. His pianos were powerful instruments, sacrificing a degree of clarity at the quieter end of the range in favour of the capacity

to gloriously fill a concert hall. Just as Pleyel had Chopin on a contract, Érard's 'poster boy' was Hungarian composer and pianist Franz Liszt. More of a showman than Chopin, Liszt preferred the rich, robust Érard: the definitive concert grand.

At home, the piano was still largely seen as an instrument for women and children. However, the same technological developments that helped the piano rise to the demands of the salon and the concert hall meant that it had become less about contemplative education and more about expressive performance.

This was the sociopolitical undercurrent beneath the medical profession's unease with people, and young middle-class women in particular, learning to play the piano. There was less concern about listening to music, which may seem odd given that music clearly has the capacity to transport a listener (or at least to change his or her mood) - which would seem to suggest some degree of neurological effect.

Tim Griffiths, professor of cognitive neurology at Newcastle University, dismisses out of hand the 19th-century ideas that playing music could accelerate or stunt girls' neural or sexual development, but he agrees that listening to music can have a more subtle effect in our brains.

"Music is capable of producing a type of transformation such as a shiver down the spine," he says, recalling a seminal experiment done about ten years ago. "A group of researchers were seeking the brain basis for the shiver down the spine. Participants brought in music that induced a shiver, and music that did not.

"PET scans of participants' brains showed different patterns depending on whether they were listening to their shiver or non-shiver music. The difference was not in the auditory cortex, as might have been expected given that is where sounds are processed, but in the more fundamental

limbic system. All the regions implicated in the shiver were those involved in basic emotions and arousal."

Music, then, has a hotline to some of our most deep-seated emotions, but this does not directly support the hypothesis of the 19th-century medics that learning to play music would alter physiological functions like menstruation. Rather, it confirms that music is a powerful stimulus in certain emotional circuits in our brains.

We used to think that music was a purely social phenomenon because it varies from culture to culture. However, the appeal of music is universal: "No culture has been discovered that does not have music," says Griffiths. In the light of findings that the human brain is equipped with neural circuitries that deal exclusively with music, it might be more accurate to think of music as something we have adapted to respond to.

As Professor Isabelle Peretz, another neuroscientist who specialises in music, has said: "It seems that emotional responses to music can be aroused...as reflexes, by being the product of dedicated neural structures. Indeed, musical emotions occur with rapid onset, through automatic appraisal, and with involuntary changes in physiological and behavioural responses."

## **Recapitulation**

Music has a fundamental role in our lives, whether we play, listen to or just hear it. Its significance is at its clearest, perhaps, when people lose their ability to process music properly. As well as doing research into auditory cognition, Griffiths specialises in treating people with musical disorders. These can be present from birth or occur later as a result of developmental and degenerative diseases and some rare types of stroke.

Some of the people he sees have amusia: an inability to perceive music

normally, often called tone deafness. "People with amusia have a perceptual disorder that is often, but not always, accompanied by a dislike of music," Griffiths explains. "The observation that some amusic people retain their enjoyment of music is interesting because it suggests a difference between the pathways for recognising music and for its emotional effect."

For those who experience music as intensely irritating noise, however, their disorder presents social challenges that the rest of us hardly notice. When a person with amusia has friends round, they may well put some music on in the background - music is an inherent part of many social norms and the pressure to fit in with them is considerable, even if you hate the sound of it.

Being so central to our social lives, it is not surprising that musical expression is often subjected to authoritarian efforts to define, limit or control it. Music is directly censored in many countries even today, but attempts to turn music into a health risk by twisting some scientific theory are driven by similar fears of revolution. Whatever spurious medical discussion surrounds panics such as the piano plague, at their heart is a perceived threat to the established social order.

The piano plague was succeeded by worries about the rise of jazz, then Beatlemania, then back-masking (supposed hidden messages that became audible when the music was played backwards). This type of concern has not been limited to music, of course, and other art forms have sparked their own brands of panic. Novels were considered decidedly dangerous for a while: as soon as 'ordinary' people became sufficiently well off to have separate bedrooms, others made it their business to worry about women (again) spending several hours a day reading in private. This was not much different to later concerns about teenagers having televisions in their bedrooms, watching video nasties, downloading the terrors of the internet or Tweeting on their mobile

phones all day.

Kennaway tells me about a recent trend for teenagers - boys in particular - to download audio tracks that claim to induce a drug-like state when listened to through stereo headphones. "It's called i-dosing and it is hardly music at all, just beeps and whistles," he says. "It's marketed as being like heroin for your ears, so of course the 'Daily Mail' was outraged and a school board in Oklahoma issued warnings. But there's no evidence that anyone has ever suffered from it."

Although it is the most recent manifestation of health scares related to music and sound, i-dosing is not the end of the story for Kennaway. His book ends by exploring the modern systematic use of music in 'enhanced interrogation'. "The USA uses both music with sexual or aggressive lyrics to assert their cultural supremacy, and 'futility music' such as playing the theme tune to 'Barney the Purple Dinosaur' to people for months at a time," he explains. "It doesn't leave any bruises, but it is very nasty."

As the medical discourse shifted from 18th-century perceptions of music as a healing, refining influence to, in the 19th century, being a health risk, it was perhaps inevitable that some people would push further in this direction. 'If music can be harmful, is someone going to try and use it against us?' they asked in the Cold War years of the 20th century. And then the question became: 'Can we use music to harm others?'

Our success in making a weapon out of music has wrestled earlier misconceptions that music could be harmful into an ugly truth.

## **Coda**

At least the piano is no longer considered a threat to the health of

individuals or society. It has settled into a safe, established role, far from its revolutionary roots: it is a mainstay of the concert repertoire, of scales practised by middle-class children and of choirs singing in church and school halls.

Looking back, it is tempting to think that the piano was always this innocuous. In his essay 'Musica Practica', Roland Barthes uses the piano's rise and fall to illustrate the decline in people playing [music](#) at home: "Initially the province of the idle (aristocratic) class, it lapsed into an insipid social role with the coming of democracy of the bourgeoisie (the piano, the young lady, the drawing room, the nocturne) and then faded out altogether (who plays the piano today?)."

Hardly any trace remains of the instrument's notoriety during the "piano plague". We should bear in mind how quickly and completely we forget such threats the next time a new phenomenon is labelled a health risk with no supporting evidence.

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