

# MUSIC

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# CONTENTS

<b>INTRODUCTION</b>	1
<b>PART I: WHAT IS MUSIC?</b>	
1. What is music?	9
2. What is a piece of music?	15
3. The histories of music	25
4. How music works	39
<b>PART II: MUSIC IN SOCIETY</b>	
5. How we use music	55
6. How we learn about music	67
7. How we talk about music	83
8. How music talks about us	103
<b>CONCLUSION</b>	121
Further resources and investigations	133
Sources and references	137
Index	148

# INTRODUCTION

The man that hath no music in himself,  
Nor is not moved with concord of sweet sounds,  
Is fit for treasons, stratagems and spoils;  
The motions of his spirit are dull as night  
And his affections dark as Erebus.  
Let no such man be trusted.<sup>1</sup>

Is Lorenzo (in *The Merchant of Venice*) right? He seems to be privileging a special kind of authority to music. It is part of the wholeness of the human spirit, and the person who doesn't have it is somehow incomplete. Shakespeare's Julius Caesar makes a similar remark about Cassius:

He hears no music.  
Seldom he smiles, and smiles in such a sort  
As if he mocked himself and scorned his spirit  
That could be moved to smile at anything.  
Such men as he be never at heart's ease ...<sup>2</sup>

Caesar is in good company here. This idea that music is necessary to 'heart's ease', or mental balance, has a venerable history. In the Bible, Saul's 'heart's ease' is restored by music:

The Spirit of the Lord departed from Saul, and an evil spirit from the Lord troubled him ... And it came to pass, when the evil spirit from God was upon Saul, that David took an harp, and played with his hand: so Saul was refreshed, and was well, and the evil spirit departed from him.<sup>3</sup>

## MUSIC

The idea seems to be that music exercises a moral force derived from its natural properties. According to the Syrian philosopher, Iamblichus, Pythagoras thought ‘the first important lesson to learn, is that which subsists through music [for it] possesses remedies of human manners and passions that are able to restore pristine harmony and faculties of the soul. Pythagoras devised musical medicines calculated to repress and cure diseases of both bodies and souls.’<sup>4</sup>

The power of music derived from the mathematical relationship of musical pitches which, being part of the natural order, could bring order to the human mind and allow Pythagoras to effect ‘soul-adjustments’ through musical performance. Music was built into the cosmos, and we could tune into it to the benefit of our souls. Pythagoras coined a word for this cosmic musical order: Harmonia.

So, music shows us how to live in harmony, with each other and with ourselves. Plato gave this idea the status of a general principle: ‘Education in music and poetry is most important ... because rhythm and harmony permeate the inner part of the soul more than anything else, affecting it most strongly and bringing it grace.’<sup>5</sup> It is a short step for Plato’s ‘inner part of the soul’ to take its place at the heart of creation myths. ‘When I laid the foundations of the earth ...’, thunders the Old Testament God proudly, ‘the morning stars sang together, and all the sons of God shouted for joy’,<sup>6</sup> and one of the earliest human characters in Genesis, a contemporary of Adam himself, is Jubal, ‘the father of all such as handle the harp and organ.’<sup>7</sup> In this account, musical

## INTRODUCTION

skills enter the human repertoire just behind tent making and just ahead of metal working.

Music, as a type and exemplar of order and harmony, enters the realm of human governance and society together with nature and religion. The moral law becomes a civil law also. The Arcadians used music to educate their children in the ways of a peaceful and orderly community (by contrast with their neighbours, the Cynaethans, who didn't). Orpheus used music to govern not just the human mind but nature too. Minos sang the laws of Crete; the Old Testament was memorised by being sung; tribal songs encode cultural information in the same way. Boethius put the ideas of the ancient Greeks into context for his sixth-century Roman audience: 'music is related to us by nature, and it can ennoble or debase our character'.<sup>8</sup>

Nor is this just a Western notion. Taoist music has similar ideas about promoting harmony, particularly between the Yin and Yang tones. Confucius remarked 'if one should desire to know whether a kingdom is well governed, if its morals are good or bad, the quality of its music will furnish the answer'.<sup>9</sup>

Later writers, naturally enough, applied the intellectual currents of their own times to these ancient themes. John Dryden put an early-Enlightenment Christian gloss on the idea of music as part of the natural, created order:

From Harmony, from Heavenly harmony,  
This Universal frame began.<sup>10</sup>

The early eighteenth-century poet William Collins moved beyond Dryden's cool, Augustan classicism to describe the

## MUSIC

forging of the human passions, each with its own particular style of music, part of the emerging Romantic world-view, full of storms both within and without:

When Music, heavenly maid, was young,  
While yet in early Greece she sung,  
The Passions oft, to hear her shell,  
Throng'd around her magic cell  
Exulting, trembling, raging, fainting,  
Possess beyond the Muse's painting;  
By turns they felt the glowing mind  
Disturbed, delighted, raised, refined:  
'Till once, 'tis said, when all were fired,  
Fill'd with fury, rapt, inspired,  
From the supporting myrtles round  
They snatch'd her instruments of sound<sup>11</sup>

For Byron in the early nineteenth century, this Romantic communion with nature takes us back to music as a natural archetype:

There's music in the sighing of a reed;  
There's music in the gushing of a rill;  
There's music in all things, if men had ears;  
The earth is but the music of the spheres.<sup>12</sup>

Walter Scott compared the civilising influence of music on the Ancients with his beloved Medieval age, and, by analogy, his own:

As the fabled lute of the Egyptian Memnon hailed the advent of the natural morning, so when the morning of Science dawned upon a lengthened age, the shells of the Troubadours

## INTRODUCTION

sounded to the impulse of its first rays ... by the delicate touches of their songs, they harmonised the feelings of a rude and illiterate age.<sup>13</sup>

To Scott, music is part of the ‘morning of Science’.

Understandably enough, the idea of creation as a kind of grandiose piece of music-theatre did not survive into the real ‘morning of Science’ and the evolutionary insights of Charles Darwin. (Interestingly, however, his grandfather Erasmus Darwin believed that plants actually moved to music, responding physically in different ways to different musical styles – Mozart being the best.) For Charles Darwin, music was the peacock’s tail, part of the process of display, to help sexual selection.<sup>14</sup>

So the twentieth century had to invent new ways of restating the universality of music for the post-Darwinian age. Some reached for transcendence, with or without a religious element – the composer Michael Tippett spoke of being, like St Augustine, ‘rapt out of time into eternity’ by the power of music.<sup>15</sup> Others found a different form of transcendence in the seemingly limitless possibilities of music as a corporate act: ‘I’d Like to Teach the World to Sing (In Perfect Harmony),’ sang the New Seekers in 1971.<sup>16</sup> Expressed in rather different ways (and for rather different reasons), this is exactly what Pythagoras was doing.

And still the eternal truths roll on. David’s harp has its echo in the modern science of music therapy. Pythagoras’s ideas about the fundamental division of the natural world into musical units are reflected with striking fidelity in contemporary writings about quantum physics and string theory. We are back where we started. But these are



## MUSIC

considerations for the end of this briefest of journeys: as T. S. Eliot said,

We shall not cease from exploration  
and the end of all our exploring  
will be to arrive where we started  
and know the place for the first time.<sup>17</sup>

Though Eliot also, rather worryingly, has a character say ‘You will understand less after I have explained it’.<sup>18</sup>

At the very least, we have established that music is important.

So, let’s start at the beginning – what is this thing we call music?

**PART I**  
**WHAT IS**  
**MUSIC?**

# 1

## WHAT IS MUSIC?

Music is sound.

Pythagoras noticed that certain sounds have a quality – pitch – which enables us to distinguish them from each other and that this pitch is directly related to the physical properties of the object producing the sound; the size and density of an anvil struck by a hammer, the length and tension of a string. The ratios between these properties, and therefore between pitches, can be expressed mathematically.

Later generations came up with a series of technological innovations to help them describe, record and reproduce the physical characteristics of sound, including the tuning fork and the computer. Yet the basic properties and relationships remain the same – it's thanks to Pythagoras that the frets on an electric guitar are positioned as they are.

Sound is transmitted by a wave which vibrates at a certain frequency. The ratio between the frequencies of two pitches gives the distance, or interval, between them. Complex ratios tend to give rise to frequencies which interfere with each other, producing jarring or discordant combinations of sounds. Simple ratios give rise to intervals which interfere with each other less, or not at all, and sound pleasant or concordant (the ratio 2:1 produces the interval of an octave, 3:2 a fifth, 4:3 a fourth, 5:4 a major third, etc.). These concordant intervals exist not only between pitches,

## MUSIC

but also within them, so that an individual note played on a string also contains other pitches mathematically related to that note, called overtones. The intensity and quality of these overtones give different instruments much of their particular character.

Pitches can then be combined simultaneously to make chords, or one after the other to make scales. Certain adjustments are required to smooth out the differences between less closely related pitches to make a workable scale. Over many centuries, different approaches to this problem have been codified as tuning systems.

So, a naturally occurring phenomenon of frequencies and ratios needs a degree of organisation in order to turn it into music. Nature must be tamed. Our first, tentative attempt at a definition has earned itself a refinement: music is organised sound.

The next stage is to consider how we experience this thing we call music. And this involves a variety of processes, some physical, some interpretative.

Sound travels through a medium, usually the air around us, and is collected by the ear, a biological organ which converts the pressure created by sound waves into neurological impulses. Reading these impulses involves many areas of the brain, including those associated with verbal and visual stimuli, emotion and memory. Listening to music appears to use more of the brain than any one of these, which may perhaps give us a hint as to why music is often thought to reach more deeply into the human psyche than other plunderers and explorers of the soul.

Our brains then interpret the signals they have received.

## WHAT IS MUSIC?

The final stage is for us to describe what we think we have heard, using words. So experiencing music is a combination of physics (via biology), interpretation and description.

Of course, there is nothing to say that the brain has to read the neurological impulses created by sound waves in the way that it does. There is evidence that some blind people, for example, experience sound as colour: the area of the brain normally associated with vision is not receiving stimulus from the eye, so it adapts to read sound as a visual stimulus instead. This happens in sighted people, too, a condition known as synaesthesia. Several composers had it, usually those of a mystical and romantic bent, like Alexander Scriabin and Arthur Bliss, who wrote *A Colour Symphony* with movements called 'Purple', 'Red', 'Blue' and 'Green'. Nature has a variety of models: bats and dolphins use sound to determine distance and position, while fish use a version of hearing to read changes in water pressure.

Agreeing that there is such a thing as music means accepting that there is also such a thing as not-music: some sounds count, others don't. As Dr Johnson put it, 'all sounds are either musical, which are ever equal, or *immusical*, which are ever unequal, as the voice in speaking, and whisperings'.<sup>19</sup> This is where the degree of organisation comes in. Music requires a degree of organisation which the human ear can distinguish. Normally, this is provided intentionally by a person who is making music on purpose – a composer. But it certainly doesn't have to be. Music is not contingent upon deliberate human causality, and certainly not upon a musical instrument – a baby bashing a piano keyboard is not making music, whereas a blackbird singing in a tree

## MUSIC

is. Thomas Hobbes had music as one of his ‘Consequences from the qualities of *animals in general*’ (his italics) in his admirably clear schematic of ‘The Several Subjects of Knowledge.’<sup>20</sup>

The boundaries between music’s roots in nature and its historical emergence as a human construct are fluid and elusive, just as they are with language. Sufficient here to end with an example. Some years ago I had a blackbird living in my garden which was in the habit of announcing its arrival by singing (quite literally and accurately) this:



Either this blackbird was a keen student of the works of Ralph Vaughan Williams, or we have established that music exists in both the natural and the human realms.

Music is a science. The composer is an organiser of sound. His building blocks are scales, chords and rhythm. Organising them into coherent shapes requires a degree of repetition – if you play a musical phrase, then follow it with a completely different phrase, unrelated in key or melody, the ear will not be able to follow a logical progression between the two. They need to have elements in common. Sequences of all kinds are a fundamental part of the way all music is assembled. Our composer uses his compositional tools to make shapes and patterns in sound. Music needs clues. It is an argument traced through sound, a logical thread which the listener can follow.

## WHAT IS MUSIC?

This discussion needs a brief footnote: saying that music is sound leaves out one of the most important building blocks of all. Listen to the exquisite holes in the first bar of Haydn's *Oxford* Symphony, or the dramatic gaps in the opening and closing bars respectively of Beethoven's and Sibelius's Fifth symphonies, where the composers powerfully employ silence. Those gaps appear on the page as an odd little squiggle – a rest. The rest is silence, not noise. Music is organised sound, but it is also organised silence.