4 Media and modalities – Music

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There are different ways to experience music; You can sing or play an instrument, you can go to concerts or listen to the radio, you can play a record, listen to a CD or stream music. You experience music in different ways, using different devices and senses. Though most people in the West might agree that music is a sounding phenomenon that involves auditory experience, both the technical media of display and the conventions that qualify music in different contexts shift culturally and historically. For a long time, music could only be experienced as a live performance (if you were not able to read sheet music). Most of the music you hear today is probably not experienced as a live performance but is played back to you from records, CDs or MP3 files, broadcast on the radio or accessed via digital streaming platforms.

While music involves auditory experiences, it involves the other senses as well. You can read music just like you read text. The German composer Ludwig van Beethoven (1770–1827) famously kept *writing* music using pen and paper after he had gone deaf. The Scottish multi-percussionist Evelyn Glennie (b. 1965), who has been deaf since the age of 12, performs barefoot on stage to better *feel* the music. While the Western conception of music focuses on music as a sounding phenomenon, other concepts found in other cultures may include dance as well.

How music sounds, how we listen to it, what we use music for and which ideas are connected to it depend on historical, social, cultural and generic dimensions. Just compare the music style and social circumstances of background music played in hotel lobbies or elevators (piped music) with the trance experience induced through the religious–animistic music of the Gnawa people in the Northern Sahara, or the casual singing of a children’s counting rhyme with the meticulous and exhausting work of classical musicians in a studio.

In this chapter, we will discuss the characteristics and communicative conventions that qualify Western art music, popular music and folk music. Despite major differences in the traditions of these qualified media types of music and the emphasis they put on musical notation and performance, they all share certain characteristics that relate to technical media of display and their basic media types.

Technical media of display in music

Music can be heard, but it can also be read. In this respect, it is not so unlike verbal language. We can listen to music that is being performed or to recordings as a sounding phenomenon. We can read sheet music as a written, visual phenomenon like text. Contrary to the case of literature, most of us listen to music more than we read music. Not as many people are able to read sheet music as fluently as most of us would read text in a familiar language. When we listen to sounding music, the technical media of display are sound waves that are realized via instruments and singers in a live performance or via electric speakers (in combination with different storage media such as records, LPs, tapes, CDs, computers or smartphones).

Like language, music can be written down, read and stored. Writing also means storing information. In the Western context, musical notation was used to store music long before the invention of audio recording. The type of notation in use today can be traced back to systems from the ninth century and it was part of the typographical discourse network (*Aufschreibesystem*) Friedrich Kittler (1986, p. 11) has described. Other cultures have developed notational systems that are even older (Bent et al. 2021). Written music (realized using, for example, paper and ink) exists in most musical cultures in different variations. The technical medium of display is the flat surface of the paper sheets, pages or screens. For people who are trained in reading written music, it can evoke a virtual musical experience. The visual perception of reading signs on the paper can evoke a cross-modal translation and conjure up the auditory imagery of sounds. This is similar to the way in which we silently read a written word and cognitively evoke the auditory imagery of speech. Because music can be conjured up cognitively from a written representation, music is sometimes thought of as an immaterial medium consisting of an *idea* rather than a material phenomenon that we can touch and feel or even hear (Cook 1998, pp. 63–71).

Yet, for most people, music is something that is listened to, and no matter how we listen to music, music needs to be performed to be heard, which often involves human bodies creating sound waves or interacting with instruments to produce organized sounds of music. In this chapter, we will draw attention to the material and medial aspects of music. The way we interact with music in the different modalities differs depending on whether we think of music as sounding or written, but our main focus will be on sounding music.

Basic media types of sounding music

Music is based on the basic medium of *organized sound*. When sound is organized in accordance with certain cultural conventions, the sound turns into the qualified medium of music. Organized sound is often combined with speech in vocal music, i.e. songs. Some people would argue that most vocal music constitutes a *combined* medium that adds the basic medium of auditory text, or even the qualified medium of poetry, to the music in the form of lyrics. And it may look like that if you consider a piece of written vocal music that uses two notational systems, text

for the lyrics and musical notation. The use of two notational systems suggests a combination of two qualified media. In the semiotic modality, two different ways of meaning-making are simultaneously present in vocal music. However, even though it can be helpful from an analytical perspective to distinguish between the meaning potential of the words in a song and the construction of the musical accompaniment, one should be aware that in the material and sensorial modalities, the two media are deeply integrated in terms of the way we perceive them both as sound waves, and in praxis, they can't be completely separated. Words sung in a language we understand will especially shape how we hear the music. And the music will shape how the words are realized and how they are heard, most notably by replacing the natural intonation of spoken language with a forced musical melody and rhythm. Language is in itself highly musical, even if we don't often think about it, and music of different styles can stay close to spoken language's natural musicality (Billie Eilish often does this) or make a point of diverging (think of arias in classical opera, or Mariah Carey). Similarly, the sound of a singular vowel will affect the timbre of the sung melody – singing an 'uhh' and an 'ohh' on the same pitch will, for example, have very different musical qualities, and people who are trained as singers will know that some vowels are easier to sing than others in different registers. The deep integration of words and organized sound can also be seen in the fact that the boundaries between speaking, reciting and singing are anything but constant over time and culture.

Auditory text and organized sound also share a range of characteristics in terms of their modalities, reinforcing this strong integration. Both the words and the music in a performed song are auditory; in the material modality both media consist of *sound waves*, which we hear in the *sensorial modality*. Sometimes we can even feel the music through the pressure of the soundwaves on our bodies (like the high-volume base sounds in a rock concert). When it comes to the *spatiotemporal modality*, the words and the music of a song also have a lot in common. Both of them are perceived as *temporal* and have the potential for fixed sequentiality in the case of a recording (that is, the *sequentiality*, or the *unfolding*, of words and music is *predetermined*, thus *fixed*), non-fixed sequentiality in the case of improvised performance, and a 'regular' performance of a poem or piece of music that exists in written form would have partially fixed sequentiality – as a performance is highly dependent on the written form, there is a level of fixation, but performances can never be repeated in exactly the same way, making the fixation only partial. Furthermore, both media have the potential for an *implied virtual space and time*. A poem or a lyric that tells a story will create a virtual space and time of that storyworld. The sound volume of music is also often spatially perceived; low sounds can be perceived as coming from far away and an increase in volume as something approaching within a virtual space. This virtual space differs depending on the *actual* space the music is played in, and how different instruments, singers or electronic speakers are placed in relation to each other in that space (think of how your voice sounds in a church compared to out in free nature, or how the sound of your favourite band differs depending on whether you are listening to it in your living room or in a

concert). Most Western music, except ambient music and maybe also some types of modal jazz and similar styles, is additionally based on a development, which implies a *virtual time* in the same way as a narrative. Music even has a *cognitive space*. In many cultures, including the Western ones, musical pitches are described as being high or low, meaning that melodies are also described as moving up and down. This way of describing music implies that we are creating a *cognitive space* in which to understand music.

The semiotic modality of sounding music

Where auditive text and organized sound really differ in terms of modalities is in the semiotic modality. Most text is dominated by the symbolic modality, although lyrics can also have an important iconic function when words are used for their auditory qualities and not only for their symbolic meaning (as with onomatopoeia). The meaning of words in a song interacts with music, performance and context; they are words that are ‘meant to be sounded’ (Eckstein 2010, p. 10). Especially in relation to the lyrics of pop songs, it is clear how music can provide meaning to otherwise incoherent or even meaningless lyrics (Frith 1996). Musical meaning can be more difficult to talk about. There is no consensus about denotative meaning in music, including the question of whether there is such a thing at all. Music gains meaning through the connotations (including emotional connotations) and metaphors we associate with different sounds and movements, and the feelings that are invoked in us when we listen. How we react to music not only depends on the cultural context but also on the physiology of hearing. The sound waves of music physiologically affect us. Although music is culturally understood as organized sound, the responses of the mind and body to music can be in tension with each other, and we can enjoy music that on a physiological level is perceived as stressful. The meaning of music is not only about aesthetics or how we make meaning out of it however, but also and at the same time about the power of sound in social interactions (Johnson and Cloonan 2008). There are many theories and discussions concerning the meaning potential of sounding music, some more relevant to specific genres than others.

The very question of whether the potential of musical meaning is even worthy of scholarly attention has been much debated in musicology, specifically in relation to the concept of *absolute music* (Dahlhaus 1989). The idea that music does not and cannot express anything but has to be seen as ‘sonically moving forms’ was championed by the influential music aesthetician Eduard Hanslick (1825–1904) in relation to Western art music (Hanslick 1922, p. 23). According to him, music can be linked to certain feelings by convention but can never represent them.

Traditionally, what many people think of when they think of musical analysis is structural or harmonic analysis, that is, looking at how the music is composed and organized and often using sheet music or other graphical representations to help with this. This is an approach that doesn’t necessarily imply any meaning in the music. Meaning is put aside in favour of structural qualities. Different musical

genres have conventions for how to organize musical development and harmony, which have developed from one musical period to the next. For instance, a typical chord progression in Western art music from around 1600 until 1900 was to use a chord with a minor seventh (e.g. G7) to lead ‘back’ to the tonal centre (here the chord C). The minor seventh in this tradition is assumed to create a feeling of tension – a strive to come ‘home’ to the tonal centre. In blues or jazz, however, this tension towards ‘home’ is per convention not resolved, and a chord with a minor seventh can stand on its own. Looking at structural or harmonic properties provides an objective way of describing music in relation to different genres or forms and thereby of placing a piece of music in a historical and cultural context.

The study of the potential of musical meaning can be approached from different theoretical positions that focus on expression, arousal or the referential meaning.

Music can be studied for its potential to express or represent emotions: we can describe music as sounding sad or happy. A scholar who is often highlighted in relation to this is the philosopher Susanne Langer. She believes that we understand musical forms as signs of certain emotions because there is a similarity between those forms and our emotions:

Because the forms of human feeling are much more congruent with musical forms than with the forms of language, music can *reveal* the nature of feelings with a detail and truth that language cannot approach.

(Langer 1954, p. 191)

Langer describes music as a ‘symbol’ of emotions, but it is important to note here that she does not define ‘symbol’ as a sign based on habit and convention. Indeed, Langer’s comments that the musical form is ‘congruent’ with the forms of emotions describe a relation between music and emotion that is based on similarity, which is in line with how we discuss iconic sign relations in this book (Elleström 2021, pp. 50–1). Music might also be considered to signify emotionally through a *symbolic* mode, however, if the recognition of a particular emotional content is highly tied to the use of conventions. Sometimes we might, for example, refer to a slow movement in a string quartet as romantic because we associate this type of music with its use in romantic scenes in a film more than we recognize the timbre and dynamic qualities of the music as romantic. There are thus no either/or solutions to which semiotic mode is dominant; instead, it is a matter of analytical focus.

There are empirical studies that show how different groups of listeners understand certain musical structures as associated with emotional meaning, which indicate certain shared meaning-making patterns among people with similar sociocultural backgrounds (see Jensen (2021) and Gabrielsson & Lindström (2010)). Some scholars have argued that even structural and harmonic conventions of ‘absolute’ music have become embedded with meaning through listeners’ familiarity with these conventions:

Embodied musical meaning is, in short, a product of expectation. If, on the basis of past experience, a present stimulus leads us to expect a more or less definite consequent musical event, then that stimulus has meaning.

(Meyer 1956, p. 35).

What this means is that familiarity with musical structures can make these structures meaningful, as they make it possible for us to predict the musical development and to place the music within a certain style. Following this line of thinking, musical structures can arouse emotion in a listener by delaying or discarding a conventional resolution (cf. Meyer 1956). There are other ideas about how music can arouse emotion, but the important point in the context of this book is not exactly how this process happens, but that it happens at all. The idea in arousal theories is not that music is ‘like’ emotions but that musical patterns can have different affective effects on the listener. The music is associated here with an *indexical* mode; rather than gaining meaning through a similarity, it gains meaning through a causal effect on our own bodies and emotional state. Emotional expression and the arousal of emotion are not mutually exclusive in a piece of music. The distinction can be important to keep in mind when analyzing musical meaning, however.

Music can also be studied for what we might call its referential meaning potential, that is, the way that it gains meaning through associations with things other than emotions, such as when rap music is associated with urban American culture, but also when a falling melodic line is associated with an object falling, or a cymbal is used to connote thunder through an auditive similarity.

When music is studied for its referential potential, it gains meaning as an *index* of a social, cultural, historical or geographical context, or it gains meaning as an *icon* by perceiving a similarity with other sounds or movements (such as thunder or objects falling, see Tagg 2012). One should keep in mind that the metaphors and associations we use to understand music change considerably from culture to culture, thereby possibly changing the meaning heard in the same kind of music. Think, for example, of the beginning of the theme song to *The Simpsons* (1989–). The tonal distance between the notes sung on the opening lyrics ‘The Simp–’ constitute an interval called a tritone. In Western art music, this interval has historically had changing significations due to its dissonant character, going as far as to associate it with the devil and evilness, particularly during the Middle Ages and in the Renaissance, but Romantic composers also used these associations deliberately (Drabkin 2001). In the contemporary *The Simpsons*, the significance has shifted, and we would argue that this ‘strangeness’ of the dissonant interval is here used to provide a quirky and rather unique identity to the series, setting the tone for the show.

Qualifying aspects of music

The conventions and the use of art music, popular music and folk music clearly differ from each other. They imply different communication chains of music distribution and hence produce different materialities of music.

Art music is a concept of music that in a Western context has been very dominant throughout history. Art music is listened to in concerts and recitals by a silent seated audience following specific conventions. There are concert halls designed for its performance. The sounding music that is performed and the written sheet music both play an important part in this qualified media type of music.

The tradition of art music has a lineage that stretches back into Greek antiquity when ‘music’ as such was first defined by the Greek philosopher Pythagoras (ca. 570–ca. 495 BCE). However, in the context of Greek antiquity, the term *mousiké* was a much broader concept than what we call music today. *Mousiké* originally referred to works or products of all or any of the nine Muses and thus could refer to what we today differentiate as music, poetry and dance and only gradually came to refer to organized sound in particular.

Different ideas have been connected with different aspects of music. For a long time, music in a Western context has been regarded as a sister discipline to mathematics and astronomy. This is crucial for understanding the high esteem that music had among certain philosophers and theologians. Music until the baroque period was seen as something that modern people might call applied physics, and it was part of the mathematical disciplines in the seven medieval liberal arts. During antiquity and until early modernity (Kircher 1650), harmonies – that is, the synchronous combination of different tones – were seen to be analogous to the order of the cosmos and the human body, proving that macrocosms and microcosms followed the same rules. Since Pythagoras, the Western tonal system has had seven tones, which are analogous to the seven planets that, according to ancient and medieval belief, surround the earth. Even though heliocentrism became the norm in early modernity, this explains why composers like the leading modernist Karlheinz Stockhausen (1928–2007) regarded their music as mirroring the order of the cosmos by employing advanced mathematics. This way of thinking explains the significant structural complexity of Western music in terms of harmony and pitch order (but not in terms of rhythm). It also explains why the first atonal compositions written at the dawn of WWI were met with hysterical scepticism as they were seen as causing anarchy in society and politics.

Throughout history, there has also been a sceptical response to actual sounding music. Music has been perceived as highly suspicious because of its double impact on body and mind, and philosophers and churchmen called for its affective impact to be controlled. The idea that music has a direct influence on morals was first formulated by Plato (428–348 BCE) and has survived to this day. Certain music styles, for instance, are thought to have a negative impact on youngsters. The Parents Music Resource Center (PMRC) was founded in

1985 in the US and introduced censorship for music through the Parental Advisory stickers, which are still in use.

In art music, there is a clear division into production, performance and reception carried out by the composer, the interpreter/performer and the listener. The prominent role of the composer as a mediator between the cosmic laws of harmony and the actual sounding music became defined explicitly in the early 1800s. Ever since, composers have been seen as geniuses who are capable of defining ‘the laws of music for eternity’, as the composer Jean Sibelius (1865–1957) put it (entry in his diary dated 7 May 1918 in Dahlström (Fabian 2005, p. 274)). Normally, the first act would consist of the composer delivering a written score, which in traditional musicology and aesthetics is regarded as ‘the actual musical work’. Experienced musicians can read those scores and imagine the sound of the music when it is played by an orchestra. This is an important but, of course, also somewhat esoteric materiality of music as auditory imagery.

The second act occurs when the interpreter enters the stage. The interpreter’s role in art music is normally to execute the score and thus execute the ideas of the composer as accurately as possible. The visual signs of the score are transformed during performance into the movements of limbs that the performer carries out to produce the physical sound waves of sounding music – either by playing an instrument or using the body as an instrument when singing. Interpreters are thus *in between* the visual and the auditory media types of music, mediating the written score into sound. This division between the composer and the interpreter/musician, the division between music as compositional idea and music as sounding phenomenon, ties back to the complicated question of how to define music in terms of idea and materiality, which we already touched upon at the beginning of this chapter. Is music that is never played or sounding at all even ‘real’ music? To many jazz musicians, who tend to rely on performance and improvisation more than on notation, the answer might be no. But in the Western art tradition, it would be more common to think of non-sounding music as the highest level of musical purity. Take, for instance, the speculative music that was part of the quadrivium – the standard curriculum for any students in medieval Europe. Or the last compositions of Johann Sebastian Bach (1685–1750), *Das musikalische Opfer* and *Die Kunst der Fuge*, which are highly complex compositions that were not intended to be played by a certain instrument but to be ‘music as such’ and more related to mathematics and religion.

Finally, the listener receives sound waves produced by the interpreter. The listener responds physically to the sounds (or noises) and at the same time responds to them in the semiotic modality and transforms them into some form of subjective meaning. In this process, all kinds of cognitive, emotional, affective and physiological effects overlap, and there is still no encompassing model for explaining how exactly this process of musical meaning-making works, although the different approaches to musical meaning just presented highlight different aspects. That it works very well is proven by the fact that musical fan cultures, which go well back

into the eighteenth century, turn listening to music into some kind of religious act and that certain fans find the meaning of their lives in music (cf. Kjellander 2013).

In art music, the three instances of creating, producing and receiving a musical media product are neatly distinguishable. They are not in popular and folk music. In popular music, the composer – or arranger – can often be the interpreter as well, and written scores are normally not employed during the production process. Instead, the musicians will create their works more or less by improvising, which means by playing freely on their instrument to gather ideas for the future piece. The creation of a media product in commercial popular music may be even more detailed than it is in art music. The production of a mainstream pop song may include many more steps, such as those involving arrangement and lyrics specialists. As much of popular music is produced in studios, it involves the work of sound engineers, technicians and music producers.

What is more important, however, for the reception of popular music is that it is nowadays practically always electronically mediated. The development of popular music in the twentieth century is closely connected to the invention of gramophones, the radio and other technical devices that have shaped popular music to a large extent. The vinyl ‘single’ – still in use as a term – defined the length of a pop song. Recording devices had an impact on the sound of voices. In the era of cylinder recordings, singers needed much more effort in order to be audible. A microphone allows the singer to whisper and still be audible.

Popular music is a commercial system that is based on the idea of producing many copies of a recording and/or broadcasting music to a mass audience. Music that can be considered ‘popular’ existed even before the twentieth century; take, for instance, the entertainment music like dances and waltzes in the nineteenth century. Before recording, sheet music was the distribution device.

In popular music, there is no original score like in art music, nor can we easily distinguish a piece of work in popular music. Instead of an original score that is correctly executed during a performance, a piece of popular music exists in multiple versions. There is the master tape that is produced by singing and playing a piece successively in time on different tracks in the studio, and there are the uncountable copies on records, CDs, tapes and digital files. As the technical media of pop music stores sounding music (and not written music, such as the score), does this mean that the piece of popular music only exists in the moment of its performance, when it is listened to and played, on radio and in concert?

At the same time, the music industry claims it is producing musical works that are protected by the copyright against unlawful copying. But when does this unlawful copying occur? When playing a record to a large group of people, or when singing a famous pop song in the shower? The answer is maybe not as clear as copyright rules suggest. The question of what a musical work is has become even more difficult to answer after the act of digitalization. Music was

turned into binary codes first on CD and then as an MP3 file and finally into a stream of digital signals when distributing it over the internet. The materiality of recorded digital music is thus fundamentally different from recorded analogue music. Analogue recording techniques mechanically transform sound waves using a needle sitting in grooves in a soft medium like wax, rotating discs or patterns of magnetic material on a tape. When playing a recording, the same process is reversed. Digital music transforms sound waves into binary code and chunks the sound into discrete units, similar to the way how analogue film chunks moving images into discrete units of 24 images per second. Recorded analogue music does not record discrete units. Thus, although gramophone and film both developed at the same time, their recording techniques are completely different (Kittler 1986).

Folk music blurs the lines between musician and listener entirely. Folk music does not operate with an entirely passive listener like in a classical concert. Folk music is thought to have a collective origin and, therefore, traditionally was not created by one person, such as a composer. Like the ancient Greek *mousiké*, it unites sound, body movements and often also language when the performer sings. It can be written down, but, more importantly, it is often handed down and passed on between musicians by playing it. Performances of folk music, such as that played to the Swedish dance around the maypole, or a jam in a Scottish pub, exhibit foremost the social aspect of music-making. Often, a musical work cannot be identified.

The different contexts and conventions of art, folk and popular music consequently generate different forms of reception as well. Not only are different types of behaviour expected, whether the audience is silently seated or allowed to spontaneously respond with clapping, shouting and dancing. In different musical contexts, different forms of meaning-making are conventionally employed and expected. For instance, a classical symphonic concert that mostly presents instrumental music is based on the idea that the music should be at the centre of the perception of the listener with no distractions. When music is understood as absolute music, as ‘sounding moving forms’ in the sense of Eduard Hanslick, it appears to be structured exclusively according to musical laws. Listening to music in this tradition resembles the study of ornaments. Hanslick’s abstract concept of music reception had a fundamental impact on the modernistic turn of music in the 1910s, which fundamentally shaped art music all over the world for decades to come.

When we look at film music and music theatre and other qualified media that integrate music instead, music is employed to a much greater extent as a device of expression and received as a ‘language of emotion’. This receptive strategy is today by far the most popular of the two. It dates back to the late Renaissance era and was most influentially shaped during the Romantic era in the early nineteenth century. When talking about the integration and combination of music with other qualified media, the ability of music to communicate specific emotions is by many seen as the most natural function of music. However, this perspective may be an exclusively Western way of receiving

music, and it cannot be taken for granted in non-European music cultures. Stressing a connection between music and emotions tends to overlook how this connection depends on context and conventions.

We still don't know much about what the impact of certain musical structures on the human psyche looks like and how receptive concepts and strategies are to being passed from one generation to another. What is known is that newborn infants already have different musical preferences and use their voices differently depending on which culture they are born into (Webb et al. 2015). This lack of knowledge is intriguing given the fact that music can be analysed with mathematical precision like no other art form.

Table 4.1 Media and modalities – Music

<i>Media types and modalities</i>	<i>Description</i>
Technical devices and media of display	Bodies, instruments producing sound waves Production: live performance, studio recordings, sheet music Dissemination: sheet music, live performance, auditory storage media (records, etc.) and loudspeakers, streaming platforms
Basic media types	Organized sound Verbal sound and auditory text (vocal music) Body language (live performance)
Qualified media type	Sound qualifies as music when organized following genre conventions /aesthetic expectations. Genres include art music, folk music, popular music Genre conventions: <ul style="list-style-type: none">• in art music tied to the role of sheet music, the concert hall, and certain compositional rules• in folk music tied to performance and authenticity of the performer• in popular music, many genres include electronic recording and manipulation
Material modality	Sound waves print on paper (sheet music) Moving bodies or objects
Sensorial modality	Auditory, visual, tactile, (implied) tactility
Spatiotemporal modality	Material: fixed sequential time and spatial range of sound Sensorial: Experience of space designed by sound. Experience of time ordered by sound (slow, fast) Semiotic: virtual time for music that is perceived to have a (narrative) development (like songs, programme music) Virtual space: low volume sounds perceived as far away in a virtual space. Crescendo = approaching
Semiotic modality	Symbolical Iconic Indexical

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