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The Elements of Music

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THE DIMENSIONS OF SOUND



All sound—not just music—has certain characteristics. The distinction between music and non-musical sounds, in most cases, is one of organization: sounds that we describe as noise tend to be irregular and unpredictable, while sounds that we describe as music are more likely to exhibit patterns. This is not always the case. A jackhammer, for instance, makes a regular and patterned noise, while certain composers create patternless music.

Whether we are listening to noise or music, we will perceive the same elements: **rhythm**, **pitch**, **volume**, **articulation**, and **timbre**. These elements will combine in time to produce a sonic object of a given **texture** that either exhibits or lacks **form**. In the following sections, we will define each of these dimensions and explore the roles that each plays in the creation and perception of music.

Rhythm

Rhythm is the temporal aspect of sound. It is the pattern of “on” and “off” states exhibited by any sound as time passes. Rhythm is by no means unique to music. When you speak, the consonants of your words produce rhythm. When a car drives by, the oscillating sounds of the tires and engines create rhythm.


Music often (although not always) features rhythmic patterns. The most basic of these is the **pulse**¹, which—like the pulse produced by your own heart—is a sequence of regularly-spaced sounds. The frequency of the pulses determines **tempo**², which can range from very slow to very fast. It makes sense that music should tend to be organized around a pulse, since our very existence is organized around pulses. Our hearts beat to a pulse, we often breathe to a pulse, we walk to a pulse, and we organize time into pulses (seconds). It is usually not difficult to detect the pulse in a musical work: simply tap your foot or clap your hands, and there it is.

1.		This video demonstrates pulse.
2.		This video demonstrates tempo.

Pulses, however, are usually not all of equal weight. Some have a greater musical significance than others. When pulses are organized into groups containing strong and weak beats, **meter** is established. Each metrical group is called a **measure** or **bar**. In notated music, these groups are physically separated by **bar lines**, which help performers to easily perceive how the pulses are grouped and to identify which is the strongest. While measures can contain any number of pulses, the most common grouping are two, three, and four. These groupings are termed **duple**, **triple**, and **quadruple meter**. Each measure in all three of these meters will begin with a strong pulse, termed the **downbeat**. In duple meter, the pattern of pulses is [strong-weak]. In triple, it is [strong-weak-weak]. And in quadruple, it is [strong-weak-medium-weak].



Pitch

Pitch³ refers to the “highness” or “lowness” of sound. Sound, of course, is not physically located in high or low spaces, but most listeners can easily perceive the difference between a high-pitched sound and a low-pitched sound. Our use of the terms high and low to describe pitch reflects the characteristics of sound waves.

3.		This video introduces the concept of pitch in the context of a familiar melody.
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All sounds are produced by vibrating bodies, which in turn produce sound waves that can be perceived by mechanisms in your ear and decoded by your brain. Pitch⁴ is determined by the frequency of those sound waves. A high pitch is produced by a high-frequency sound wave, and a low pitch is produced by a low-frequency sound wave. The frequency of sound waves is in turn determined by the characteristics of the vibrating body that sparks them into action. All other parameters being equal, a long string, once plucked and set into motion, will produce a lower pitch than a short string⁵. Likewise, a thick string will produce a lower pitch than a thin string of the same length. The same principles apply when you blow across the ends of

tubes, strike bells, or beat drums: the larger, longer, and heavier the vibrating body, the lower the sound it will produce.

4.		This online oscilloscope allows you to visualize sounds. Pitch is reflected in the distance between waves, which will decrease as pitch level increases. Volume is reflected by the size of the waves, which will grow in amplitude as dynamic level increases.
5.		This video demonstrates the relationship between pitch frequency and wave form.

Music is usually characterized by the careful organization of pitches. To begin with, most musical systems recognize what is termed **octave equivalence**⁶. This is the consensus that you can halve or double the frequency of the pitch without changing its essential identity. To see this principle in action, attend any birthday party at which both women and men are present. When the guests sing “Happy Birthday,” they will not sing exactly the same pitches. Instead, the women will tend to sing in a high octave, and the men will tend to sing in a low octave. In technical terms, this means that the women will probably sing pitches that have frequencies equal to twice that of those sung by the men. However, all participants will agree that they are all singing the same pitches, or in **unison**. An octave is an example of an **interval**, which is the distance between two pitches.

In the Western system, we acknowledge this phenomenon by using the same letter names to designate pitches in different octaves. For example, pitches at the frequencies of 110 hz, 220 hz, 440 hz, 880 hz, and 1,760 hz are all called “A.” However, specific frequencies are still important. Music that contains mostly high pitches has a different effect on listeners than music containing mostly low pitches, even if the rhythms and sequence of pitches are the same. Additionally, **melodic range**⁷ (the distance between low and high pitches) and changes in **register** (the use of high or low pitches) can be important musical elements.

6.		This video demonstrates octave equivalence in the context of “Happy Birthday.”
7.		This video introduces the concept of melodic range.

The Western system—that is to say, the system of musical organization that was first developed in medieval Europe and continues to dominate global listening today—goes quite a bit further in its efforts to organize pitch. Let us return to the octave. Between the A at 220 Hz and the A at 440 Hz, there are a near-infinite assortment of possible frequencies at which an intermediary pitch might sound. However, we do not use all of those pitches when we create music. Instead, we identify a limited number of specific pitches to be used. The Western system is best represented by the piano keyboard, which is both familiar and useful.

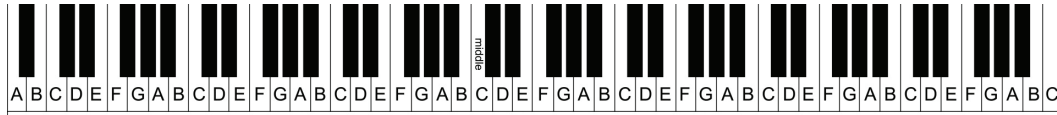


Image 2.1: Each white key on a piano is assigned a letter name. Those letter names repeat at each octave, reflecting our agreement that every A (for example), whether high or low, is in some sense the “same” note. The black keys are named after the adjoining white keys: simply add “flat” to the name of the white key to the right or “sharp” to the name of the white key to the left.

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As you can see, the space between the A at 220 Hz and the A at 440 Hz is divided across twelve piano keys. This is called the **chromatic**⁸ pitch set, and it includes all of the pitches used in Western music. However, composers only rarely use the entire chromatic pitch set. When you do hear music that uses every available note, you will probably find that it makes you uncomfortable. This is because we are used to hearing music built using a set of only seven pitches that is called a **scale**. Most music is based on one of two scales: the **major** scale⁹ and the **minor** scale¹⁰. If the pitches in a piece of music are drawn from a major scale, it is described as being in the **major mode**. Likewise, if the pitches are drawn from a minor scale, it is in the **minor mode**. A scale can start on any pitch, which then determines the **key** of music that is based on that scale. For example, music created using pitches drawn from the A major scale is in the key of A major.

8.




This video demonstrates the chromatic pitch set.

9.



This video demonstrates a major scale.

10.		This video demonstrates a minor scale.
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In most pieces of music, pitches are assigned to two different roles: **melody**¹¹ and **harmony**^{12 & 13}. Melodies are constructed out of a sequence of pitches. This is the part of a musical work that you might sing along with or that might get stuck in your head. Melodies have various characteristics, including **shape**¹⁴ and **motion**¹⁵, which can be **conjunct** (in which the melody primarily moves up and down the scale) and **disjunct** (in which the melody contains larger intervals and leaps). Harmonies are constructed out of groups of pitches that are usually sounded simultaneously and constitute **chords**¹⁶, while a sequence of harmonies is termed a **chord progression**. In a musical work, the harmony is usually unobtrusive and might be repetitive. A melody and a harmony sound good together when they are based on the same scale and contain some of the same pitches. However, every melody can be harmonized in many different ways, using various chords. Likewise, a single harmony can be used to accompany many different melodies.

11.		This video demonstrates the melody to Beethoven's "Ode to Joy."
12.		This video demonstrates melody and a possible harmony to Beethoven's "Ode to Joy."
13.		Here, you can hear Beethoven's melody and harmony in the context of his original composition.
14.		This video introduces the concept of melodic shape.
15.		This video introduces the concept of melodic motion.

16.



This video demonstrates chords, which are used to harmonize melodies.

Although this text will not offer a technical explanation of harmony (which can become very complicated indeed), it is often central to the listening experience. A certain chord progression can surprise you, or excite you, or break your heart. It is not necessary to understand harmonies from a theoretical perspective to feel their impact. You also don't need a theoretical background to understand the role harmony plays in establishing and then satisfying or frustrating expectations. As long as a piece of music is in a key, one chord—the chord built on the note that the key is named after—will serve as a home base, while other chords in the key will facilitate journeys away from or back towards that home base. We get used to hearing certain chord progressions and come to expect them, so we often have a sense of where the music is going to go. If we hear an unexpected chord or—most shocking of all—a chord that is not in the key of the piece of music, we tend to respond emotionally.

Volume

Like pitch, volume—the loudness or softness of a sound—is a parameter of every soundwave. **Volume** is determined by the amplitude of the wave, such that waves with a large amplitude produce high-volume sound and waves with a small amplitude produce low-volume sounds. While volume is simple to understand and assess (we can all tell whether music is “loud” or “soft”), its significance in the creation of musical meaning cannot be overlooked. On the one hand, certain genres of music depend on volume for their identity. You cannot appreciate the impact of heavy metal by listening to it with the dial turned down, just as you cannot sing a baby to sleep at the top of your voice. Changes in volume can also communicate meaning in music. A gradual increase in volume can indicate growing excitement, while a sudden change in volume can indicate a dramatic mood shift.

A few terms will help us to talk about volume, which is also referred to as **dynamic level**. An increase in volume is referred to as a **crescendo**, while a decrease is termed a **decrescendo** or **diminuendo**. Musicians in orchestras, bands, and choirs describe volume using Italian terms including **fortissimo** (very loud), **forte** (loud), **mezzo forte** (medium loud), **mezzo piano** (medium soft), **piano** (soft), and **pianissimo** (very soft). While this book will not employ these terms, you might encounter them elsewhere.

Articulation

Articulation has to do with how pitches are begun, sustained, and released, and it is driven primarily by changes in dynamic level. In music production

language, this dimension of sound is referred to as the envelope¹⁷. The envelope is independent of pitch, but it determines the character of that pitch. For example, a pitch might begin with a gentle increase in volume, or a sudden decrease, or no dynamic change. Once it has begun to sound, a pitch might be sustained for a long time, or it might be abruptly cut off. And when it is ended, it might be released with a decrease in volume, and increase in volume, or no dynamic change.

17.



This video explains the four elements of the envelope: attack, decay, sustain, and release.

Although the preceding description was highly technical, the effects of articulation are easy to perceive. At one end of the spectrum, a series of pitches might be heavily punctuated, with forceful onsets and no sustain. The traditional Italian term for this articulation is **staccato**—a term that means short and accented, and which is difficult to replace with an English equivalent. At the other end, a series of pitches might be smoothly connected, with gentle onsets and a great deal of sustain. The term for this articulation is **legato**. Between these extremes are an enormous variety of approaches to beginning, sustaining, and releasing notes, many of which are unique to the instruments that produce them.

Timbre

The final characteristic that is universal to all sounds is **timbre** (TAM-ber), which describes the quality of a sound. Whether one has no musical training or is an accomplished performer, we are all skilled at identifying minor variations in timbre. This ability lets you know that your mother is calling you from the other room, not your sister. It helps you to tell the difference between a guitar and a piano. Not only does every voice and every instrument exhibit a unique timbre, but performers can alter the timbre they produce by changing their technique. Timbre is also integral to genre and style: A symphony orchestra produces one range of timbres, while a rock band produces another.

Variations in timbre are made possible by the existence of the **overtone series**, which is a sequence of higher-pitched frequencies that are activated every time a pitch is produced. When you strike a key on the piano, for example, you are not only sounding the pitch associated with that key, you are also activating dozens of pitches at set intervals above that pitch, each of which might sound at a relatively high or low volume. The combination of these **overtones** produces timbre. Two instruments playing the same pitch sound different, therefore, because they are activating different pitches in the overtone series at different volumes. The complexity of this process allows for near-infinite variety in timbres.

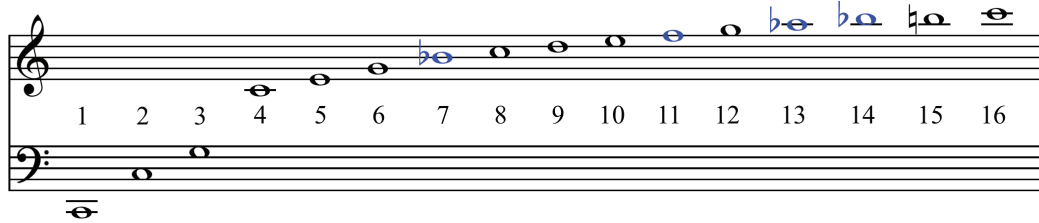


Image 2.2: These are the pitches of the overtone series as they might be notated on a staff. Even if you cannot read notation, you can see that the pitches get closer together as they get higher. When one plays a low C on any instrument, most of these pitches are sounded to some degree. The pitches in blue will be out of tune.

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If you engage with every example in this volume, you will experience an extraordinary range of contrasting timbres. Audiences for various genres develop unique preferences and expectations for timbre, and timbre is often one of the most distinctive characteristics of a musical tradition. Variations in timbre are often not hard to identify: A piano trio, for example, had a different sound quality than a thrash metal band. These differences, however, can be very difficult to put in to words. While timbre is easy to perceive and measure, it is hard to describe.

For the most part, we will consider timbre in the context of individual examples. We will investigate different ways of producing sound with the human voice (which is capable of extraordinary diversity), the various instruments that are responsible for the characteristic sounds of non-Western classical traditions, and the electric instruments and sound processing techniques that have contributed to popular music of the last seventy years. There is one sound source in particular, however, that pervades this volume: the symphony orchestra. For an overview of the instruments that make up the orchestra, please see Appendix A.

Texture

We are now ready to move from sound to music, which usually exhibits some additional characteristics. One of these is **texture**¹⁸, which concerns the contents of and interactions between various layers or voices in a musical work. We use four basic terms to describe texture, although these terms can tell us little about what a piece of music actually sounds like. **Monophonic**¹⁹ music has a single melody line, performed by a soloist or in unison, with no accompaniment. If you add an accompaniment that has different pitches (probably chords) but that is secondary to the melody, you have **homophonic** music. In **polyphonic** music, every voice is independent but equally important, and there is no distinction between melody and harmony. And in **heterophonic** music, multiple instruments or voices each perform a unique version of the same melody, such that unison is not achieved. We will encounter these terms in the context of specific examples throughout this volume.

18.		This video introduces the concept of texture.
19.		This video explores variation in texture.

In addition, texture can be described using qualitative terms. It can be thick or dense, meaning perhaps that there are many independent and highly-active parts, or it can be thin or sparse, meaning perhaps that there are few instruments, each of which can be clearly identified and tracked. Consider, for example, two songs from *Sgt. Pepper's Lonely Hearts Club Band*, discussed in Chapter 8. The concluding thirty seconds of “Being for the Benefit of Mr. Kite” are irrefutably dense: There is so much going on that it is difficult to identify individual sources of sound, and the listener’s focus is constantly attracted by new and varied voices. The first verse of “A Day in the Life,” on the other hand, has a thin texture, made up only of guitar, bass, and shaker. It is possible to focus on individual instrumental parts and to hear the unique articulation of each.

Form

Finally, we need a way to talk about how music unfolds over time. This element is known as **form**. Most musical compositions exhibit formal characteristics, although some pieces are very amorphous or difficult to describe in terms of form. At the very least, creators of music usually plan the formal dimensions of their work. John Cage’s *4’33”* doesn’t have form, per se, since its sonic contents are always different, but at least the composer decided how long the piece was going to last.

In most cases, the creators of music rely on three organizational principles that produce form. These are **repetition**, **variation**, and **contrast**. Repetition occurs when we hear the same thing twice, whether it is a long and complicated melody, a short melodic fragment, a rhythm, or a harmonic pattern. Variation occurs when musical material returns, but with alterations. Contrast, naturally, refers to musical material that has not been heard before.

Repetition is key to our ability to understand and enjoy music. When we hear something new, internal repetition allows the music to quickly become familiar and helps us to predict what is going to happen next. For this reason, all popular music features repetition of various kinds. When an unfamiliar song comes on the radio, you can expect to hear the chorus (the catchy part with words and melody that both repeat) several times. Most popular songs also have repetitive chord progressions and some sort of repeating accompaniment, known formally as an

ostinato²⁰. Ostinatos are important in many types of music and will play a role throughout this book.

20.



The bass line at the beginning of White Stripes’s “Seven Nation Army” provides a good example of an ostinato. This seven-note melodic figure is heard throughout the song.

Variation and contrast are what make music interesting. We enjoy and rely upon repetition, but we can only take so much. However, music that contains constant variation or lacks repetition altogether requires more of the listener. Most people cannot relax and enjoy music that is constantly changing and that offers something new and different with each passing moment. At the same time, such music can communicate a great deal and be particularly rewarding for an engaged listener.

The degree to which music relies on repetition or contrast is often linked to its purpose. Dance music, for example, tends to be repetitive. When people are dancing, they don’t want much contrast. They want the music to maintain a constant tempo, rhythmic character, and mood. Minor variations might make dancing more interesting, but major changes can make dancing impossible. In addition, when you’re dancing you don’t pay careful attention to the nuances of the music. Music belonging to a sung theater tradition, however, is much more likely to exhibit contrast. In the first place, it is probably being used to express emotions or to portray a nuanced character. Variation and contrast allow for more complex and meaningful communication. In the second, audience members are paying full attention to the music, and, therefore, have a higher tolerance for contrast and change.

MUSIC IN THE WORLD

With the exception of its opening passages, which considered the problem of defining what music even is, this unit has so far emphasized the empirical qualities of music. We have acknowledged the documented effects of music on the human brain, and we have acquired a variety of terms and concepts that can be used to understand and describe music as a physical phenomenon. Now it is time to address some of the messier aspects of talking and writing about music.

Categories

What kinds of music do you like to listen to? Country? Hip-hop? Classical? EDM? Top 40? Whether we are talking to a friend, using a streaming service, or browsing records in a store, we like to think about music in terms of categories. These categories can be very useful. They can help us pick a radio station we might enjoy, or decide whether or not to buy tickets to hear an unfamiliar band. At the same time, these categories are both artificial and extremely limiting.

Let us begin by considering the classic tripartite division of music into the categories of “classical,” “popular,” and “folk.” This approach has been around for a long time, and it has persevered because, in many ways, it works. If I tell you that I like “classical” music, you immediately understand that I probably mean orchestral music, or opera, and that I probably listen to music that is fairly old. But there are problems with this categorization. To begin with, much of what is “classical” today was “popular” in the past. When Mozart wrote his symphonies, for example, his object was to satisfy popular demand and sell concert tickets, and his audiences behaved the same way that fans at a rock concert do today. And what if I actually prefer experimental orchestral music composed last year? It is common practice to refer to such repertoire as “classical,” but it’s about as far from Mozart as you can get.



Image 2.3: “Classical” music is usually associated with certain performance conventions, including formal dress, music reading, and standard ensembles such as the orchestra and choir pictured here, but none of these are essential.

Source: Pexels

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How about “popular” music? This category is generally understood to contain commercial music that appeals to large numbers of people. But what about individual artists or songs that fail to achieve any popularity whatsoever? What about experimental rock bands that take the same attitude towards their work as serious “classical” composers? Mozart, a “classical” composer, might have more in common with a “popular” artist like Jimi Hendrix than Hendrix has in common with Pink Floyd. Mozart and Hendrix were both gifted instrumentalists who

dazzled their audiences with virtuosic performances and wrote music to showcase their skills, while the band Pink Floyd is known more for their nuanced production, complex song structures, and unusual instrumentation. Again, however, this category is not without its value. While there is an enormous diversity of “popular” musics, they tend to be characterized by certain forms, instrumentations, styles, and performance venues. There might be much to separate Jimi Hendrix and Pink Floyd, but their music shares important elements of instrumentation and style, and it might be heard in the same types of settings.

“Folk” is also a slippery category. “Folk” music is typically described as music of unknown authorship that is passed down from generation to generation in a particular region. It tends to be fairly simple and in a distinctive style, and it is performed on instruments that are integral to the local musical culture. However, problems quickly arise as we try to label individual pieces or practices. In the United States, for example, the works of Stephen Foster have long been considered folk music. Songs like “My Old Kentucky Home” and “Camptown Races” have certainly entered folk culture, and many who sing or play them know nothing of their composer or origin. But can a commercial song, created and published by a professional composer, truly be considered “folk” music? Different problems arise as we address the musical practices of non-Western societies, many of which do not employ musical notation and reject notions of individual authorship. But do the absence of a named composer, official sheet music, and copyright notice mean that a work in the North Indian classical tradition is “folk” music? The complexity, sophistication, and technical demands of music in this category would suggest not.

A further challenge arises when we try to identify *the* “folk” music of a region or nation. Let us take the United States. If I tell you that I listen to American folk music, you will probably imagine someone like Joan Baez playing guitar and singing songs from the Anglo folk tradition. Indeed, music such as hers has come to be known as Folk music (with a capital F). If I ask Spotify to play Folk music for me, I’ll hear Joan Baez and others like her. However, her music represents only one cultural strain within the United States.



Image 2.4: Woody Guthrie, pictured here in 1943, is an icon of American folk music. However, he mostly performed songs that he himself wrote and had a successful commercial career—characteristics that put him more in line with “popular” musicians.

Source: Wikimedia Commons

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What about the polka music of midwestern communities? What about the corrido ballads of Spanish-speaking communities near the southern border? What about the dance music heard at Native American pow-wow gatherings? Are any of these traditions less “folk” or less “American” than the others?

For all the reasons explored above, this narrative is going to steer clear of “classical,” “popular,” and “folk” as categories and terms. They have been addressed here only because their use is so widespread. Instead, we will focus on what music across these categories shares in common: the purposes for which individual works were originally created and continue to be consumed. This book is organized around categories, but these categories have little to do with the style of the works contained therein. Instead, they have to do with the roles music plays in society. These categories lead us to first understand what music is *for*. Only then will we seek to address how the music works, who created it, and how it is rooted in its historical and cultural context.

These categories also have their shortcomings. Many musical examples included in a given category could just as easily be included in another. We will admit that at the outset. All the same, these categories seem more useful than “classical,” “popular,” and “folk,” and they tell us much more about what really matters: music as an integral aspect of the human experience.

Genres and Subgenres

This book will engage with another mode of categorization: **genre**. Genre is a way of making connections between closely-related works and musical artists



Image 2.5: Genre is primarily a marketing tool. Customers in this store can easily find the music they are likely to be interested in because the recordings are organized by genre.

Source: NeedPix

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that share stylistic, formal, and cultural elements. You are sure to recognize a large number of genres—rock, pop, R&B, country, hip-hop—from your own musical consumption. Each of these genre names tells us something about what the music is like and who listens to it. Each also hosts a variety of **subgenres** that communicate more specialized information about the music contained therein. For example, the genre EDM (electronic dance music) contains all computer-produced music intended primarily for dancing, whereas the subgenre dubstep contains only bass-heavy EDM that uses specific timbres, is in duple meter, and falls within a narrow tempo range. The label “dubstep” also

gives us a clearer picture of who consumes the music and what a concert might be like. Finally, subgenres tend to come and go, each leading to the next, while genres remain relevant for longer periods of time.

It is important to acknowledge that genre in the 21st century is primarily a marketing tool. The main purpose of genre is to help record companies efficiently label their merchandise, identify consumers, and advertise music to the people who are most likely to buy it. Genre also helps the music industry to track sales; consider the Billboard music charts, which have been in use since 1958. Of course, genre is meaningful to consumers as well, and subgenres are often named not by faceless corporations but by the fans themselves. Genre can also help listeners to find music that they will enjoy, and it can serve to create communities of listeners and concertgoers.

At the same time, genre can be divisive. Historically, genre has been used to separate black and white performing artists whose music was stylistically identical. This happened in the 1920s, when the marketing categories of “race records” and “hillbilly records” were invented to segregate the music of black and white Southern musicians, and again in the 1950s, when the distinction between performers of R&B and rock ‘n’ roll was often one of race. It is important, therefore, to be critical of genre, and to repeatedly assess exactly what genre is telling us.

Indeed, genre can convey a wide variety of types of information, but not all genres convey the same types of information. Let’s look at two examples: “string quartet” and “French reggae.” The former provides us with precise information about instrumentation (two violins, viola, and cello) and suggests a multi-part concert work intended for the stimulation of players and listeners. We might also make assumptions about the consumer of such a genre, who is probably (although not always) well-educated and reasonably well-off, and we might expect to hear performances in a formal concert hall, surrounded by well-dressed and attentive listeners. However, genre in this case tells us nothing at all about style, geographical origin, historical context, or social significance. A work in this genre might have been composed in 1780, or 1880, or 1980, or yesterday. Although the string quartet originated in German-speaking Europe, this genre has been accessible to composers, performers, and listeners across the globe for at least the past one hundred years. A string quartet might be pleasant and lyrical, or dissonant and jarring. It might be fairly simple or



Image 2.6: This is the cover for a Victor “race records” catalog published in the 1920s. Various “race” genres are listed at the bottom.

Source: Wikimedia Commons

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mind-bogglingly complex. It might last eight minutes, or eighty minutes. And genre provides us no idea about what sort of meaning—political, social, or otherwise—might be contained in such a work.

The case is quite different with “French reggae.” On the one hand, this genre tells us less about instrumentation. We can expect to hear certain instruments—electric guitar, electric bass, drums, and perhaps electric organ, trumpet, and saxophone—but taking away or adding instruments does not fundamentally destabilize the genre. On the other, it tells us much more about everything else. First and foremost, the “reggae” designation tells us all we need to know about style, which is a core identifying feature of the genre. It also limits the scope of time and place. Reggae has only been around since the late 1960s, and it was developed in Jamaica by Rastafarians—a nation and culture that are central to the genre’s identity no matter where individual songs might come from. The subgenre identification of “French reggae” tells us even more about geographic location and language. Finally, reggae carries certain political, social, and racial connotations. It is usually performed by musicians of African descent, and it often espouses ideals of pan-African unity and social justice. These values in turn help us to understand how and why people consume the music, and how French reggae might become an integral part of someone’s identity.

Fixed Composition vs. Improvisation

The two genres just discussed exhibit an additional pair of features that require deeper discussion: string quartets tend to be **fixed compositions**, such that the pitches and rhythms in every performance are identical, while reggae invites **improvisation** and variation from performance to performance, such that two renditions of the same song might sound quite different. In a tradition that relies on fixed composition, it is assumed that the creator of a work will make all decisions concerning pitch, rhythm, form, instrumentation, and length, and that performers will follow these instructions precisely. Fixed compositions are usually enshrined in notated music, although they do not have to be. This does not mean, however, that every performance of a fixed composition will be identical. Performers are usually invited to make minute adjustments to some of these elements, such as articulation, tempo, and dynamics, with the result that each rendition is unique to the discriminating listener.

Improvisation is much more difficult to sum up. This is due to the fact that there are nearly as many approaches to improvisation as there are musical traditions. Improvisation implies the production of new musical elements in the course of a live performance, but it always occurs within a set of boundaries. No improviser is free to play or sing whatever they want. Instead, an improviser will tend to apply formulas to the transformation of musical material while respecting certain fundamental characteristics of the style and composition.

In jazz, for example, improvisation is guided by the form and harmonic structure of a fixed composition that serves as the basis for a performance. While



Image 2.7: In the United States, improvisation is most closely associated with jazz. Here we see Coleman Hawkins improvising a solo in 1947.

Source: Wikimedia Commons

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improvising, a player is free to choose pitches and rhythms—but they must fit with the predetermined harmonies, so choices are limited. Improvisation means something different to a balafon player in West Africa, who will constantly vary a repeated melodic figure used to accompany singing (see Chapter 5). It means something different again to a member of a Javanese gamelan, who might not know how a performance will unfold ahead of time but understands exactly how to vary their melody in response to instructions from the drummer (see Chapter 4). And it means yet something else to a Baroque violinist, who performs a fixed composition but is free to add ornaments and flourishes according to stylistic guidelines.

When we talk about fixed composition versus improvisation, we are talking about different roles in the creation of music: the role of the composer versus the

role of the performer. Not all traditions distinguish between these roles, which makes it particularly difficult to define our terms. Throughout this volume, we will identify and examine the contributions of different individuals—composers, orchestrators, arrangers, adapters, and performers—to the creation of unique musical objects.



Image 2.8: North Indian classical musicians, such as Shruti Sadolikar Katkar and Mulye Mangesh, also engage in improvisation. Their performances, however, are guided by entirely different principles than those of jazz musicians.

Source: Wikimedia Commons

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Emotional Expression and Cultural Context

Emotional expression is, for many listeners, the main reason to interact with music. It is also the most difficult to pin down or explain. While we can make some generalizations and predictions, emotional response to music happens at the individual level, and it is impossible to know exactly what impact music will have on a given listener. A piece of music might make one person cry, another feel uncomfortable, and another feel bored. The extraordinary diversity of genres is itself a testimony to the wide-ranging responses that people have to music. There is something out there for everybody to love, and something for everybody to hate.

All the same, members of a given culture tend to agree, at least to some extent, about the emotional content of music. As an example, consider two excerpts from a musical work created by the German composer George Frideric Handel in 1740 entitled *The Cheerful Person, the Thoughtful Person, and the Moderate Person* (original Italian: *L'Allegro, il Penseroso ed il Moderato*). For most of this work, two archetypal characters—the cheerful person and the thoughtful person—argue

about whether it is better to be happy or pensive. Each calls forth the emotional state for which they advocate, the cheerful person with an aria (song) entitled “Come, thou Goddess fair and free,”²¹ and the thoughtful person with an aria entitled “Come, rather, Goddess sage and holy.”²² Although this music was written over 250 years ago, the emotions expressed are still easy to perceive by many today. But what is it, exactly, that makes the first aria sound happy, and what makes the second sound reserved?





Image 2.9: This 1845 painting by Thomas Cole captures the allegorical figure of L'Allegro, or "The Cheerful Person."

Source: Wikimedia Commons

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21.		Handel's aria "Come, thou Goddess fair and free" represents bright and cheerful emotions in music.
22.		Handel's aria "Come, rather, Goddess sage and holy" captures a sober and introspective emotional state.

The answer can be arrived at by comparing and contrasting the dimensions of sound that were enumerated above. The first aria is quick in tempo, while the second is slow. The first contains fast-moving rhythms, while the second does not.



Image 2.10: Here we see Cole’s representation of *Il Penseroso*, or “The Thoughtful Person.”

Source: Wikimedia Commons

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The first is in the major mode, which we often hear as communicating positive emotions, while the second is in the minor mode, which can sound sad or serious. The vocal line in the first aria jumps around, skipping notes in the scale, while that in the second generally does not. The articulations in the first are bouncy and accented, while those in the second are smooth and connected. The first aria features bright-timbred wind instruments—oboe and bassoon—while the second relies on the mellower strings.

However, we still haven’t answered the question. After all, what do oboes have to do with cheerfulness? Why does a melody that moves stepwise suggest sobriety? Why does the minor mode signify a somber mood? There are two ways that we can begin to answer these questions. The first has to do with the web of relationships between music—a purely acoustic phenomenon with no required visual component—and the “real world.” Our brains easily map high pitches onto elevated physical locations, rapid rhythmic activity onto frenetic physical activity, and melodic leaps onto physical leaps. The other has to do with cultural signification. There is nothing objectively sad or serious about the minor mode, for example, but in the Western tradition we have developed an association between minor-mode music and profound emotional expression. (This is largely due to the complex inner workings of Western harmony, which are beyond the scope of this book.) Other cultures have not made this association, and listeners in those traditions might respond to minor-mode music differently than those acculturated to Western music.

This has been only a brief introduction to questions that will occupy us throughout this book. Our object will not be to answer these questions, but rather to carefully consider how music can create an emotional experience, how we respond to it, and how it has been used by humans over the span of centuries and continents.

RESOURCES FOR FURTHER LEARNING

Print

Duckworth, William. *A Creative Approach to Music Fundamentals* (11th edition). Cengage Learning, 2012.

Online

Music theory lessons and exercises:

- <https://utheory.com/>
- <https://www.musictheory.net/lessons>

Unit 2

MUSIC FOR STORYTELLING