

Chapter 3

Consonance and Dissonance¹

Notes that sound good together when played at the same time are called **consonant**. Chords built only of consonances sound pleasant and "stable"; you can listen to one for a long time without feeling that the music needs to change to a different chord. Notes that are **dissonant** can sound harsh or unpleasant when played at the same time. Or they may simply feel "unstable"; if you hear a chord with a dissonance in it, you may feel that the music is pulling you towards the chord that **resolves** the dissonance. Obviously, what seems pleasant or unpleasant is partly a matter of opinion. This discussion only covers consonance and dissonance in Western² music.

NOTE: For activities that introduce these concepts to young students, please see Consonance and Dissonance Activities³.

Of course, if there are problems with tuning, the notes will not sound good together, but this is not what consonance and dissonance are about. (Please note, though, that the choice of tuning system can greatly affect which intervals sound consonant and which sound dissonant! Please see Tuning Systems⁴ for more about this.)

Consonance and dissonance refer to intervals (Chapter 1) and chords⁵. The **interval** between two notes is the number of half steps⁶ between them, and all intervals have a name that musicians commonly use, like major third (Major and Minor Intervals, p. 5) (which is 4 half steps), perfect fifth (p. 5) (7 half steps), or octave⁷. (See Interval (Chapter 1) to learn how to determine and name the interval between any two notes.)

An interval is measured between two notes. When there are more than two notes sounding at the same time, that's a **chord**. (See Triads⁸, Naming Triads⁹, and Beyond Triads¹⁰ for some basics on chords.) Of course, you can still talk about the interval between any two of the notes in a chord.

The simple intervals (p. 2) that are considered to be consonant are the minor third¹¹, major third¹², perfect fourth¹³, perfect fifth¹⁴, minor sixth¹⁵, major sixth¹⁶, and the octave¹⁷.

¹This content is available online at <<http://cnx.org/content/m11953/1.13/>>.

²"What Kind of Music is That?" <<http://cnx.org/content/m11421/latest/>>

³"Consonance and Dissonance Activities" <<http://cnx.org/content/m11999/latest/>>

⁴"Tuning Systems" <<http://cnx.org/content/m11639/latest/#p11e>>

⁵"Harmony": Chords <<http://cnx.org/content/m11654/latest/#l0b>>

⁶"Half Steps and Whole Steps" <<http://cnx.org/content/m10866/latest/>>

⁷"Octaves and the Major-Minor Tonal System" <<http://cnx.org/content/m10862/latest/>>

⁸"Triads" <<http://cnx.org/content/m10877/latest/>>

⁹"Naming Triads" <<http://cnx.org/content/m10890/latest/>>

¹⁰"Beyond Triads: Naming Other Chords" <<http://cnx.org/content/m11995/latest/>>

¹¹See the file at <<http://cnx.org/content/m11953/latest/minorthird.mid>>

¹²See the file at <<http://cnx.org/content/m11953/latest/majorthird.mid>>

¹³See the file at <<http://cnx.org/content/m11953/latest/fourth.mid>>

¹⁴See the file at <<http://cnx.org/content/m11953/latest/fifth.mid>>

¹⁵See the file at <<http://cnx.org/content/m11953/latest/minorsixth.mid>>

¹⁶See the file at <<http://cnx.org/content/m11953/latest/majorsixth.mid>>

¹⁷See the file at <<http://cnx.org/content/m11953/latest/octave.mid>>

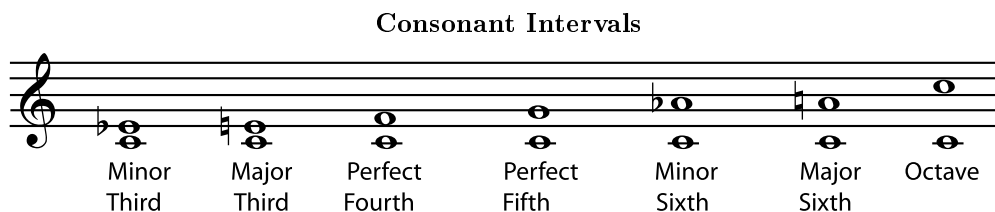


Figure 3.1

In modern Western Music¹⁸, all of these intervals are considered to be pleasing to the ear. Chords that contain only these intervals are considered to be "stable", restful chords that don't need to be resolved (p. 24). When we hear them, we don't feel a need for them to go to other chords.

The intervals that are considered to be dissonant are the minor second¹⁹, the major second²⁰, the minor seventh²¹, the major seventh²², and particularly the tritone²³, which is the interval in between the perfect fourth and perfect fifth.

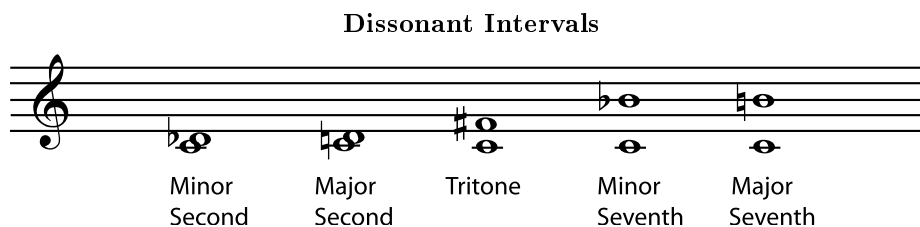


Figure 3.2

These intervals are all considered to be somewhat unpleasant or tension-producing. In tonal music²⁴, chords containing dissonances are considered "unstable"; when we hear them, we expect them to move on to a more stable chord. Moving from a dissonance to the consonance that is expected to follow it is called **resolution**, or **resolving** the dissonance. The pattern of tension and release created by resolved dissonances is part of what makes a piece of music exciting and interesting. Music that contains no dissonances can tend to seem simplistic or boring. On the other hand, music that contains a lot of dissonances that are never resolved (for example, much of twentieth-century "classical" or "art" music) can be difficult for some people to listen to, because of the unreleased tension.

¹⁸"What Kind of Music is That?" <<http://cnx.org/content/m11421/latest/>>

¹⁹See the file at <<http://cnx.org/content/m11953/latest/minorsecond.mid>>

²⁰See the file at <<http://cnx.org/content/m11953/latest/majorsecond.mid>>

²¹See the file at <<http://cnx.org/content/m11953/latest/minorseventh.mid>>

²²See the file at <<http://cnx.org/content/m11953/latest/majorseventh.mid>>

²³See the file at <<http://cnx.org/content/m11953/latest/tritone.mid>>

²⁴"What Kind of Music is That?" <<http://cnx.org/content/m11421/latest/#p7d>>

Resolving Dissonances

The figure consists of three musical staves in treble clef with a common time signature (C).
 1. The first staff shows a D suspended fourth chord (Dsus4) resolving to a D major chord (D). A red arrow points from the suspended fourth (F#) to the major second (F), labeled "Maj. 2nd".
 2. The second staff shows a G seventh chord (G7) resolving to a C major chord (C). A red arrow points from the minor seventh (F) to the major second (F), labeled "Min. 7th".
 3. The third staff is titled "Clusters of Seconds (unresolved)" and shows a series of six chords, each consisting of two notes. The first chord has a major second interval (F-G), and the second has a minor second interval (G-A). Red arrows point to these intervals, labeled "Maj. 2nd" and "Min. 2nd" respectively.

Figure 3.3: In most music a dissonance will resolve; it will be followed by a consonant chord that it naturally leads to, for example a G seventh chord resolves to a C major chord²⁵, and a D suspended fourth resolves to a D major chord²⁶. A series of unresolved dissonances²⁷, on the other hand, can produce a sense of unresolved tension.

Why are some note combinations consonant and some dissonant? Preferences for certain sounds is partly cultural; that's one of the reasons why the traditional musics of various cultures can sound so different from each other. Even within the tradition of Western music²⁸, opinions about what is unpleasantly dissonant have changed a great deal over the centuries. But consonance and dissonance do also have a strong physical basis in nature.

In simplest terms, the sound waves of consonant notes "fit" together much better than the sound waves of dissonant notes. For example, if two notes are an octave apart, there will be exactly two waves of one note for every one wave of the other note. If there are two and a tenth waves or eleven twelfths of a wave of one note for every wave of another note, they don't fit together as well. For much more about the physical basis of consonance and dissonance, see *Acoustics for Music Theory*²⁹, *Harmonic Series*³⁰, and *Tuning Systems*³¹.

²⁵See the file at <<http://cnx.org/content/m11953/latest/GseventhC.mid>>

²⁶See the file at <<http://cnx.org/content/m11953/latest/DsusD.mid>>

²⁷See the file at <<http://cnx.org/content/m11953/latest/dissonant.mid>>

²⁸"What Kind of Music is That?" <<http://cnx.org/content/m11421/latest/>>

²⁹"Acoustics for Music Theory" <<http://cnx.org/content/m13246/latest/>>

³⁰"Harmonic Series" <<http://cnx.org/content/m11118/latest/>>

³¹"Tuning Systems" <<http://cnx.org/content/m11639/latest/>>

Index of Keywords and Terms

Keywords are listed by the section with that keyword (page numbers are in parentheses). Keywords do not necessarily appear in the text of the page. They are merely associated with that section. *Ex.* apples, § 1.1 (1) **Terms** are referenced by the page they appear on. *Ex.* apples, 1

- A** acoustics, 4
 augmented, 7
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- C** chord, 23
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 Compound intervals, 2
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- D** diminished, 7
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- F** fifths, § 1(1)
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- I** interval, § 1(1), 1, § 2(17), § 3(23), 23
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- M** major intervals, § 1(1), 5
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- O** octaves, § 1(1)
- P** perfect, 4
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- R** resolution, 24
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- S** Scale, § 2(17)
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- T** thirds, § 1(1)
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- U** unison, 5

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Music Fundamentals 4: Intervals

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