Intervals 1
Music Fundamentals   **14-119-T**

In General, the building blocks of music can by simplified by defining them as *timbre*, *rhythm*, and *harmony*. We have discussed rhythm to some extent already in previous lectures. In short, *timbre* is simply defined as tone color. For example, because of timbre, we can tell the difference between a flute and violin. They have different *sound colors*.

Harmony in music is more difficult to explain, and is the primary focus of most music theory texts and courses. For our purposes at this time, we can simply think of harmony as the relationship between pitches. Harmony can be implied (eg., a succession of notes in a melody can imply a harmony) or directly presented (eg., notes sounding at the same time). Music would not be very interesting if it was completely *monophonic*, or in other words, if we only heard one note at a time. Monophony is the earliest *texture* of music documented in the civilized western world, and it manifested primarily in Gregorian Chant.[1]

Pitch Relations:
To have harmony, or the relationship between pitches, we must have more than one note. Remember, these notes can occur at the same time (harmonic), or they may not (melodic). It depends on the music at which you are looking. For now, we're going to focus on notes that occur at the same time. We can discuss the relationship of two notes by inspecting the distance between the two notes. This distance is called the *interval*. In the notation lectures we discussed the 1/2 steps and whole steps. As long as we understand the 1/2 step, then we can find the name of any interval using the chart in Figure 1. We also spent a good deal of time understanding a very important concept: the octave (8v), which is an *interval* of twelve 1/2 steps.

Since the octave is divided into twelve 1/2 steps, we have twelve possible intervals within the octave [see figure 1].

Figure 1

Name	Abbrev.	# of 1/2 steps
Minor 2nd	m2	1
Major 2nd	M2	2
Minor 3rd	m3	3
Major 3rd	M3	4
Perfect 4th	P4	5
Tritone[2]	A4/D5	6
Perfect 5th	P5	7
Minor 6th	m6	8
Major 6th	M6	9
Minor 7th	m7	10
Major 7th	M7	11
Octave	8v	12

---

[1] There is a debate about the performance practice of this music. Some scholars believe that plainsong (syn. Gregorian Chant) was performed with instruments and in harmony. Despite these arguments, the common performance practice for plainsong today is to have singers sing the melody in *unison* (all together on the same pitch in the same rhythm).

[2] The tritone is exactly 1/2 of the octave. The Augmented 4th and Diminished 5th are considered enharmonic intervals. That is, they consist of the same number of 1/2 steps, but they are often spelled differently. This will be discussed further in a later lecture.

To implement this chart, count the number of 1/2 steps between the notes. Except for the octave, the intervallic relationship must contain notes that are do not share the same letter name. In other words, **C** up to **C#** is a 1/2 step; however, **C** up to **Db** is a minor 2nd.

What do the Numbers Mean?:

The chart in Figure 1 is not fool proof. You must also take into account the relationship of the letter names. If you count up from the lower note using the musical alphabet, you will arrive at the number of interval. For example, the relationship of **C** up to **E** (in the same octave) is a Major 3rd. That is, count: **C** (1), **D** (2), **E** (3). Therefore, you should recognize that **C** up to **Fb** (the enharmonic of **E**) is not a Major 3rd. Of course you should see that there are only four 1/2 steps between **C** and **Fb**, yet if we count up from **C** (**C**(1), **D**(2), **E**(3), **F**(4)), we see that **F** is the fourth letter we reach, not the third. Therefore, this interval is a type of 4th – not a 3rd. This interval, which is the enharmonic of a Major 3rd because it has four 1/2 steps but is spelled differently, will be discussed later.

Conclusion:

At this time, you should begin to practice interval recognition by adding this knowledge to your knowledge of the keyboard. If you remember that each adjacent key on the piano represents one 1/2 step, then this should become clearer [see figure 2].

I have presented a lot of information to you in this lecture. Take time to digest this new knowledge. It is imperative that you fully understand Figure 1,and how to apply this information to the keyboard. In the next lecture, we will continue our exploration of intervals.

Figure 2

1/2 Step

C to E
four 1/2 steps
Major 3rd