

## **Unit 9: Pitch Function: Ideas**

*There are only twelve tones and they need to be treated carefully.*  
Paul Hindemith

Paul Hindemith was a highly recognized composer, music theorist, violist and chamber music player. His book Elementary Training for Musicians is one of the most interesting, effective, and (despite the misleading title) most challenging method books on musicianship skills. Hindemith's approach has been a strong influence on many musicians. In this Chapter we will work on developing the sense of Pitch Function, the role that individual notes play in a given musical context.

### ***Lesson 1: Pitch Names and Other Designations***

Lesson 1 begins by showing the pitches of the four open strings with the names of a C major scale with traditional names for each pitch or "scale degree" indicated below the notes. The word scale is derived from the Latin word *scala* ("ladder.")

Diagram 3A below shows the steps or scale degrees of the major scale. Step III to IV and Step vii to I' are small steps or "half steps." The others are "whole" steps. Notice that scale steps are traditionally indicated with **Roman Numerals**. The term "Authentic Form" comes from modal theory. It indicates that the scale runs from scale degree I to the same note an octave higher. The diagram also indicates the names of the scale degrees (TONIC, SuperTonic) etc. and the tendencies some scale degrees have to move to other scale degrees. Students should memorize these names and tendencies. In the diagram below the notes written in highlighted **CAPITAL** letters usually have a "stronger" character than other notes. Notice also the indicated tendencies of the other notes to move to these "stronger" notes. Remember, however, that these are "tendencies" and not rules that must always be followed.

## Diagram 3A

### **STEP I' (TONIC')**

**Upper Root** of tonic triad  
*Step vii (leading tone)*  
*Usually moves up to step I*

*Step vi (submediant)*  
*Often moves down to step V*

### **STEP V (DOMINANT)**

**Fifth** of the tonic triad

*Step IV (subdominant)*  
*Usually moves down to step III*

### **STEP III (Mediant)**

**Third** of the tonic triad

*Step ii (supertonic)*  
*Often moves down to tonic or up to mediant*

### **STEP I (TONIC)**

**Root** of tonic the triad

As in previous Chapters, each Lesson contains several Exercises that can be used for ear training exercises as well as for performance exercises. Teachers and students may use teaching and learning techniques covered in early lessons, or invent their own techniques.

### **Lesson 2: C Major Scale in Position 0, Authentic Form (Tonic to Tonic)**

Authentic form means that the scale runs from the first scale degree (tonic) to the first scale degree (tonic) an octave higher.

### **Lesson 3: C Major Scale in Position 0, Plagal Form (Dominant to Dominant)**

Plagal form means that the scale runs from the fifth scale degree (dominant) to the fifth scale degree (dominant) an octave higher

### ***Lesson 4: C Major Scale in Position 5, Plagal Form (Dominant to Dominant)***

The procedures used in Lessons 1 to 3 may be applied to this lesson.

### ***Lesson 5: All Major Keys Divided into Four Categories***

To this point in this Chapter all examples have been in C major. The key of C major has a key signature of no sharps and no flats. Now it is time to learn to use other keys. Other keys have between 1 and 7 sharps or flats in their key signatures to indicate changing a note up or down by a half step or minor second. A sharp sign indicates raising a note a minor second; a flat sign indicates lowering a note by a minor second. The sharps or flats of a key signature apply to all octaves in which the given note appears. Students should memorize the order and placement of the sharps and flats in a key signature.

The division of major keys into four categories is meant to show special characteristics and relationships of the various keys

**Category 1:** C Major (No Accidentals)

**Category 2:** Commonly Used Major Scales with 1 to 4 flats.  
F (1 flat), Bb (2 flats), Eb (3 flats), Ab (4 flats) shown first with accidentals and then with key signatures.

**Category 3:** Less Commonly Used Major Scales.  
Db (5 flats) and C# (7 sharps): These two scales are “enharmonic”; they are spelled differently, but they sound the same  
Gb (6 flats) and F# (6 sharps): These two scales are also enharmonic;  
Cb (7 flats) and B (5 sharps): These two scales are also enharmonic.

**Category 4:** Commonly Used Major Scales with 1 to 4 Sharps  
G (1 sharp), D (2 sharps), A (3 sharps), E (4 sharps) shown first with accidentals and then with key signatures.

### ***Lesson 6: Minor Keys (Natural Minor Form) Divided into Four Categories***

Now we turn to minor keys, more specifically we turn to minor keys in the natural minor form. The term “natural minor” means that the minor scale uses the same notes as the major scale, but the notes begin on the sixth scale of the major scale. Study the following information carefully.

**C Major Scale:**

Scale Degrees	1	2	3 4	5	6	7 8
Scale Names	C	D	E F	G	A	B C

**A Minor Scale:**  
(Natural Minor Form)

Scale Degrees					1	2 3	4	5 6	7	8
Scale Names					A	B C	D	E F	G	A

**Category 1:** A Minor Scale All Natural Notes, No Accidentals Needed

**Category 2:** Commonly Used Minor Scales with 1 to 4 flats.

D (1 flat), G (2 flats), C (3 flats), F (4 flats) shown first with accidentals and then with key signatures.

**Category 3:** Less Commonly Used Minor Scales.

Bb (5 flats) and A# (7 sharps): These two scales are “enharmonic”; they are spelled differently, but they sound the same

Eb (6 flats) and D# (6 sharps): These two scales are also enharmonic;

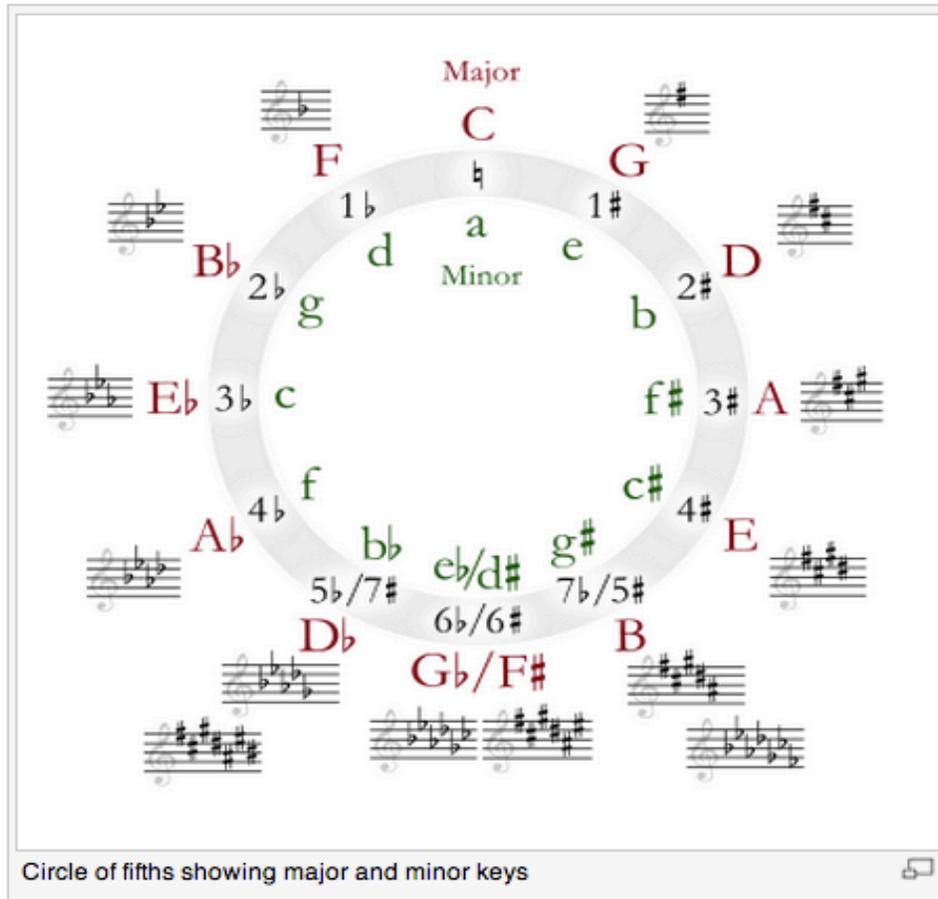
Ab (7 flats) and G# (5 sharps): These two scales are also enharmonic.

**Category 4:** Commonly Used Scales with 1 to 4 Sharps.

C# (4 sharps), F# (3 sharps), B (2 sharps), E (1 sharp): These scales are shown first with accidentals and then with key signatures. For all of these major and minor scales notice carefully the way the accidentals (sharps and flats) are arranged and written in the key signature. Notice that the flats or sharps always move in intervals of a fourth or a fifth.

The **Circle of Fifths**, shown below is a frequently used way to show the relations between all Major and all Minor keys. Studying it will help you learn the key signatures of these keys.

## The Circle of Fifths



Students should practice playing the scales slowly at first with a focus on accuracy. Then they can play them in faster tempo. After having gone through the scales in the given order they should practice them in random order.

### ***Lesson 7: Parallel Minor Scale Types (Same Key Signature, Same Tonic, Different Accidentals for some degrees)***

Parallel Minor Scales are minor scales that begin with the **same** tonic, and then continue with one of four scale types – **Natural Minor** with no raised or lowered scale degrees, **Harmonic Minor** with raised scale degree 7, **Melodic Minor** (Ascending) with raised scale degrees 6 and 7, and Melodic Minor (Descending) with no raised or lowered scale degrees.

The observant student will possibly notice that in terms of the actual notes of the scales there really only three different types of minor scales – Natural Minor, Harmonic Minor, and Melodic Minor. Natural Minor and Melodic Minor (descending) have exactly the same notes. Why, then, should they have two different names? This possibly came from a somewhat old-fashioned view that in a properly written composition, the composer should use Melodic Minor (ascending) for an ascending scale passage and Melodic Minor (descending) for a descending passage. In actual music this “so-called” rule is not necessarily followed. A good example of this would be in Bach’s Third Cello Suite, Minuet No. 2 where the first phrase is a descending passage written in Ascending Melodic Minor.

**Lesson 8: From Major to Relative Minor (same key signature, different tonic note)**

The relative minor scale begins on the 6<sup>th</sup> degree of a major scale. For example, the relative minor of C major is A minor; the relative minor of D major is B minor. A major scale and its relative minor scale are written with the same key signature. C major and A minor are both written with the key signature of no sharps or flats. D major and B minor are written with the key signature of two sharps (F# and C#).

The interval structure of a major scale (C Major) and its relative minor (A minor) differ from each other in terms of three scale degrees. **Table 4A** shows the notes of both scales with the intervals between them and the two tonic notes. The three critical scale degrees (3 6 and 7) are highlighted.

**Table 4A**

Scale Degrees	1	2	<b>3</b>	4	5	<b>6</b>	<b>7</b>	1
C MAJ	C	D	<b>E</b>	F	G	<b>A</b>	<b>B</b>	C
Intervals above C	P1	M2	<b>M3</b>	P4	P5	<b>M6</b>	<b>M7</b>	P8
A Min	A	B	<b>C</b>	D	E	<b>F</b>	<b>G</b>	A
Intervals above A	P1	M2	<b>m3</b>	P4	P5	<b>m6</b>	<b>m7</b>	P8

**Lesson 9: From Major to Parallel Minor (different key signature, same tonic)**

The parallel minor of a major scale is a scale that begins on the same first degree or tonic. For example the parallel minor of C major is C minor. In order to have the proper intervals in the parallel minor scale, it must be written with a key signature that has more flats for some keys or fewer sharps for others. Table 4B shows the key signatures for parallel major and minor keys

**Table 4B**

Key Notes Major Sharp Keys	Signature Accidentals Major Sharp Keys	Key Notes Major Flat Keys	Signature Accidentals Major Flat Keys	Key Notes Relative Minor Sharp Keys	Key Notes Relative Minor Flat Keys
C	None			A	
G	F#			E	
D	F# C#			B	
A	F# C# G#			F#	
E	F# C# G# D#			C#	
<b>B</b>	<b>F# C# G# D# A#</b>	<b>Cb</b>	<b>Bb Eb Ab Db Gb Cb Fb</b>	<b>G#</b>	<b>Ab</b>
<b>F#</b>	<b>F# C# G# D# A# E#</b>	<b>Gb</b>	<b>Bb Eb Ab Db Gb Cb</b>	<b>D#</b>	<b>Eb</b>
<b>C#</b>	<b>F# C# G# D# A# E# B#</b>	<b>Db</b>	<b>Bb Eb Ab Db Gb</b>	<b>A#</b>	<b>Bb</b>
		Ab	Bb Eb Ab Db		F
		Eb	Bb Eb Ab		C
		Bb	Bb Eb		G
		F	Bb		D

Notice that in the middle of the chart there are three rows of pitch names with background colors. These signify enharmonic notes, notes that sound the same but are written differently. For example, B and Db sound the same but they are written differently.

***Quiz on Major Scales (A), Types of Minor Scales (Natural, Harmonic, Melodic) and Relations between Major and Minor Scales (Parallel, Relative)***

The following quiz tests spelling of major and minor keys and the meaning terms Natural, Harmonic, Melodic, Parallel, and Relative.

A. For each of the following major keys list the accidentals in key signature order. For example A Major would be F#, C#, G#.

1. Db Major \_\_\_\_\_
2. F# Major \_\_\_\_\_
3. Bb Major \_\_\_\_\_
4. Major \_\_\_\_\_
5. Gb Major \_\_\_\_\_

B. For each of the following minor keys list the accidentals in key signature order. For example F Minor would be Bb Eb Ab Db

1. Eb Minor \_\_\_\_\_
2. G# Minor \_\_\_\_\_
3. Ab Minor \_\_\_\_\_
4. B Minor \_\_\_\_\_
5. E Minor \_\_\_\_\_

C. For each of the following major or minor keys name the parallel minor, or the relative minor as indicated. For example the parallel minor of D Major would be D Minor; the relative major of Bb Minor would be Db Major; the parallel minor of C Major would be C Minor.

1. C Major Minor \_\_\_\_\_
2. D# Minor, Relative Major \_\_\_\_\_
3. Ab Minor. Parallel Major \_\_\_\_\_
4. F# Major, Parallel Minor \_\_\_\_\_
5. Db Major. Relative Minor \_\_\_\_\_

D. For each of the following minor scales, indicate the type of minor as natural minor, harmonic minor, or melodic minor.

For example: B C# D E F# G A# B would be harmonic minor.

1. F# G# A B C# D E F# \_\_\_\_\_
2. Eb F Gb Ab Bb Cb D Eb \_\_\_\_\_
3. A B C D E F G A \_\_\_\_\_
4. D E F G A B C# D \_\_\_\_\_
5. G A Bb C D Eb F# G \_\_\_\_\_

### ***Lesson 10: C Minor Scale, Harmonic Minor, Melodic Patterns for Ear Training and Sight Singing***

This lesson provides exercises in Position 5 that are based on the C Minor scale in Harmonic Minor.

### ***Lesson 11: Chromatic Scale in One Octave with OneShunTwo Syllables***

A chromatic scale is a scale that moves by half steps from a given tonic note to the tonic note one octave above. There are 12 different notes in the chromatic scale, not counting the tonic one octave above the first note of the scale. Ex. 1 (in the musical examples) and **Table 4C** (below) present the C chromatic scale in Position 5 ascending and descending, with pitch letters, degree numbers, degree names according to the OneShunTwo system, and fingering (string/finger).

**Table 4C: Ascending and Descending Chromatic Scale  
With OneShunTwo Syllables  
And Relative Importance of Scale Degrees**

Ascending Chromatic Scale			Descending Chromatic Scale		
Pitch Names <b>Sharps</b>	Degree Numbers <b>Sharps</b>	Degree Names <b>Sharps</b>	Pitch Names <b>Flats</b>	Degree Numbers <b>Flats</b>	Degree Names <b>Flats</b>
<b><u>C</u></b>	<b><u>1</u></b>	<b><u>One</u></b>	<b><u>C</u></b>	<b><u>1</u></b>	<b><u>One</u></b>
C#	#1	Shun	Db	b2	Floo
<b>D</b>	<b>2</b>	<b>Two</b>	<b>D</b>	<b>2</b>	<b>Two</b>
D#	#2	Shoo	Eb	b3	Flee
<b><u>E</u></b>	<b><u>3</u></b>	<b><u>Three</u></b>	<b><u>E</u></b>	<b><u>3</u></b>	<b><u>Three</u></b>
<b>F</b>	<b>4</b>	<b>Four</b>	<b>F</b>	<b>4</b>	<b>Four</b>
F#	#4	Shore	{Gb}	{b5}	Flive
<b><u>G</u></b>	<b><u>5</u></b>	<b><u>Five</u></b>	<b><u>G</u></b>	<b><u>5</u></b>	<b><u>Five</u></b>
G#	#5	Shive	Ab	b6	Flix
<b>A</b>	<b>6</b>	<b>Six</b>	<b>A</b>	<b>6</b>	<b>Six</b>
A#	#6	Shix	Bb	b7	Flev
<b>B</b>	<b>7</b>	<b>Sev</b>	<b>B</b>	<b>7</b>	<b>Sev</b>
<b><u>C</u></b>	<b><u>1</u></b>	<b><u>One</u></b>	<b><u>C</u></b>	<b><u>1</u></b>	<b><u>One</u></b>

There are several things to notice about this table.

1. The notes C, E, and G represent the notes of the C Major tonic triad. The color red on the notes **C E G** and the underlining suggests that they are **important** notes or possible **ending** notes for a musical composition or Chapter written in C Major.
2. The notes D, F, A, and B represent the remaining four diatonic notes of a C Major scale. They appear in normal typeface and black.
3. The notes C#, (Db), D#, (Eb), F# (Gb), G# (Ab), and A# (Bb) represent chromatic notes of a C Major scale. Usually in a scale or melody, the sharp chromatic notes are used when they lead up by half step to a

diatonic note. The flat chromatic notes are used when they lead down by half to a diatonic note. This is illustrated in *Lesson 7*, Ex. 1.

Notice, however, that there are some exceptions to this general rule:

1. The chromatic note for #4 (F#) is not only used in the ascending C Major scale to lead up to G, but it is also used in the descending C major scale to lead down to F. This “rule” is generally, but not always followed in present day music theory.
2. The chromatic notes for b1 (Cb) and b5 (Gb) are not usually used for descending passages. The chromatic notes #3 (E#) and #7 (B#) are not usually used for ascending passages.
4. The ***OneShunTwo*** Degree Names for the notes of the chromatic scale are of two types. The diatonic notes maintain their standard pitch names. The chromatic notes change the first syllable consonant sounds to “sh” for sharp notes, or to “fl” for flat notes.

***Lesson 12: Chromatic Scale in One Octave with PitchNames, Scale Degrees, OneShunTwo Syllables, Strings/Fingers***

The Chromatic Scale is a twelve note scale that uses all possible notes within one octave. . The C chromatic scale is presented in Fifth Position with scale degrees, ***OneShunTwo*** Syllables and string and finger indication. First the student should work for accuracy of intonation at a relatively slow tempo. Then the tempo should be increased.

***Lesson 13: Etude*** is a musical term used often as the title of a musical composition that demands a high level of skill and practice time. A ***Chromatic Etude*** presents the chromatic scale in various strings and fingerings.