

## UNIT 1

## Fundamentals

## Major and Minor Scales

The concept of **scale** plays a significant role in the music of all cultures, both Western and non-Western. There is a wide variety of scales, each describing the intervallic relationships among the **pitches** of any given composition. Thus, a scale is a theoretical tool, derived from music itself, which helps us to organize and understand the musical elements of a particular composition, genre, style, or tradition.

### The Chromatic Scale

In the Western tradition, most of our music can be described by the twelve **half steps** (**semitones**) that make up the **chromatic scale**. For example, if we choose the chromatic scale beginning on C (and we could choose any one of the twelve half steps as our **tonic** or central pitch), the letter names of this scale, ascending and descending, would be as shown in Table I.1.

By assigning a different syllable to each half step in the chromatic scale, the movable-*do* **solfège system** allows us to reinforce the distinct **functional** character of each pitch in the scale. The functional character of each pitch depends on the specific tonal context under consideration. In Table I.2, solfège syllables are given for the letter names.

The most common scales in **tonal** music—the **major** and **minor scales**—are made up of varying numbers of half steps between each

TABLE I.1 The chromatic scale beginning on C, ascending and descending

Ascending →													
C	C <sup>♯</sup>	D	D <sup>♯</sup>	E	F	F <sup>♯</sup>	G	G <sup>♯</sup>	A	A <sup>♯</sup>	B	(C)	
												← Descending	
(C)	D <sup>♭</sup>	D	E <sup>♭</sup>	E	F	G <sup>♭</sup>	G	A <sup>♭</sup>	A	B <sup>♭</sup>	B	C	

TABLE I.2 Solfège syllables for the chromatic scale beginning on C


Ascending →													
C	C <sup>♯</sup>	D	D <sup>♯</sup>	E	F	F <sup>♯</sup>	G	G <sup>♯</sup>	A	A <sup>♯</sup>	B	(C)	
do	di	re	ri	mi	fa	fi	so	si	la	li	ti	(do)	
												← Descending	
(C)	D <sup>♭</sup>	D	E <sup>♭</sup>	E	F	G <sup>♭</sup>	G	A <sup>♭</sup>	A	B <sup>♭</sup>	B	C	
(do)	ra	re	me	mi	fa	se	so	le	la	te	ti	do	

C	D	E	F	G	A	B	C
do	re	mi	fa	so	la	ti	do
1̂	2̂	3̂	4̂	5̂	6̂	7̂	1̂ (or 8̂)

TABLE I.3 The major scale

step of the scale (**scale degree**). Carefully compare the major scale given in Table I.3 with the chromatic scale given in Table I.2 to see where they coincide and where they differ. Both ascending and descending forms are the same. With respect to *do*, we indicate the relative position of each scale step with an Arabic number. By placing a caret (^) above each

of these numbers, we create a third way to refer to specific scale degrees in the major and minor scales. For example, 5̂ should be read "scale-degree five." This also helps to reduce confusion among the many other uses of Arabic numbers.

Thus, the familiar major scale is defined by two half steps (a **whole step**) between each scale degree except between 3̂ and 4̂ and between 7̂ and 8̂, in both of which pairs the scale degrees are separated by a single half step, as is indicated in Tables I.3 and I.4 by .

THE NATURAL MINOR SCALE							
C	D	E♭	F	G	A♭	B♭	C
do	re	me	fa	so	le	te	do
1̂	2̂	3̂	4̂	5̂	6̂	7̂	1̂
THE HARMONIC MINOR SCALE							
C	D	E♭	F	G	A♭	B	C
do	re	me	fa	so	le	ti	do
1̂	2̂	3̂	4̂	5̂	6̂	7̂	1̂
THE MELODIC MINOR SCALE							
Ascending →							
C	D	E♭	F	G	A	B	C
do	re	me	fa	so	la	ti	do
1̂	2̂	3̂	4̂	5̂	6̂	7̂	1̂
← Descending							
C	D	E♭	F	G	A♭	B♭	C
do	re	me	fa	so	le	te	do
1̂	2̂	3̂	4̂	5̂	6̂	7̂	1̂

TABLE I.4 Three forms of the minor scale

SCALE DEGREE	FUNCTIONAL NAME
1̂	Tonic
2̂	Supertonic
3̂	Mediant
4̂	Subdominant
5̂	Dominant
6̂	Submediant
7̂	Leading tone

TABLE I.5 Common functional names of diatonic scale degrees

The three forms of the minor scale—the **natural minor scale**, the **harmonic minor scale**, and the **melodic minor scale**—are each closely related to the major scale. In comparison with the structure of the major scale, all three forms of the minor scale share the lowered third scale degree, creating a whole step between 3̂ and 4̂ and a half step between 2̂ and 3̂. The varying forms of the minor scale differ in their sixth and seventh scale degrees, as shown in Table I.4.

These scales have been established over centuries by analyzing the music of the Western tonal tradition. The variations of the minor scale come directly from the ways in which composers have written their music in minor keys.

Music derived solely from the seven notes of a given major or minor scale is termed **diatonic** music. That is, diatonic music is made up exclusively of pitches with a distinct function in a given scale. As listed in Table I.5, each step of any of these scales, whether major or minor, is known by the special name indicating the function of that degree.