

TABLE I. Western musical scales (also called modes). (A) The 12 intervals of the chromatic scale showing the abbreviations used, the corresponding number of semitones, and the ratio of the fundamental frequency of the upper tone to the fundamental frequency of the lower tone in just intonation tuning. (B) The seven diatonic scales/modes. As a result of their relative popularity, the Ionian and the Aeolian modes are typically referred to today as the major and minor scales, respectively. Although the Ionian and Aeolian modes and the scales they represent have been preeminent in Western music since the late 16th century, some of the other scales/modes continue to be used today. For example, the Dorian mode is used in plainchant and some folk music, the Phrygian mode is used in flamenco music, and the Mixolydian mode is used in some jazz. The Locrian and Lydian are rarely used because the dissonant tritone takes the place of the fifth and fourth scale degrees, respectively.

(A) Chromatic scale			(B) Diatonic scales						
Interval Name	Semitones	Frequency ratio	“MAJOR” Ionian	Dorian	Phrygian	Lydian	Mixolydian	“MINOR” Aeolian	Locrian
Unison (Uni)	0	1:1	M2	M2	m2	M2	M2	M2	m2
Minor second (m2)	1	16:15	M3	m3	m3	M3	M3	m3	m3
Major second (M2)	2	9:8	P4	P4	P4	tt	P4	P4	P4
Minor third (m3)	3	6:5	P5	P5	P5	P5	P5	P5	tt
Major third (M3)	4	5:4	M6	M6	m6	M6	M6	m6	m6
Perfect fourth (P4)	5	4:3	M7	m7	m7	M7	m7	m7	m7
Tritone (tt)	6	7:5	Oct	Oct	Oct	Oct	Oct	Oct	Oct
Perfect fifth (P5)	7	3:2							
Minor sixth (m6)	8	8:5							
Major sixth (M6)	9	5:3							
Minor seventh (m7)	10	9:5							
Major seventh (M7)	11	15:8							
Octave (Oct)	12	2:1							

Above figure & tables from “Major and Minor Music Compared to Excited and Subdued Speech”, D. Bowling, *et al.*, J. Acoust. Soc. Am. 127, p. 491-503, 2010.