I.) Other Octave Divisions:

It is certainly possible to divide up the octave into finer divisions than just 12 semitones. Here are some other (reasonable) possibilities!

One could divide the octave up into arbitrarily small intervals, but the human ear's ability to discern/distinguish such fine intervals becomes increasingly difficult!

TABLE I

OCTAVE DIVISION (M)	NUMBER OF SMALL DIVISIONS (m)	CENTS	CLOSEST JUST INTERVAL	CENTS DEVIATION FROM CLOSEST JUST INTERVAL
19	2	126	Diatonic semitone (112 cents)	+14
	3	190	Small whole tone (182 cents)	+8
	5	316	Minor third (316 cents)	0
	6	379	Major third (386 cents)	−7
	11	695	Fifth (702 cents)	−7
31	3	116	Diatonic semitone	+4
	5	194	Small whole tone	+12
	8	310	Minor third	−6
	10	387	Major third	+1
	18	697	Fifth	−5
53	5	113	Diatonic semitone	+1
	8	181	Small whole tone	−1
	9	204	Large whole tone	0
	14	317	Minor third	+1
	17	385	Major third	−1
	31	702	Fifth	0