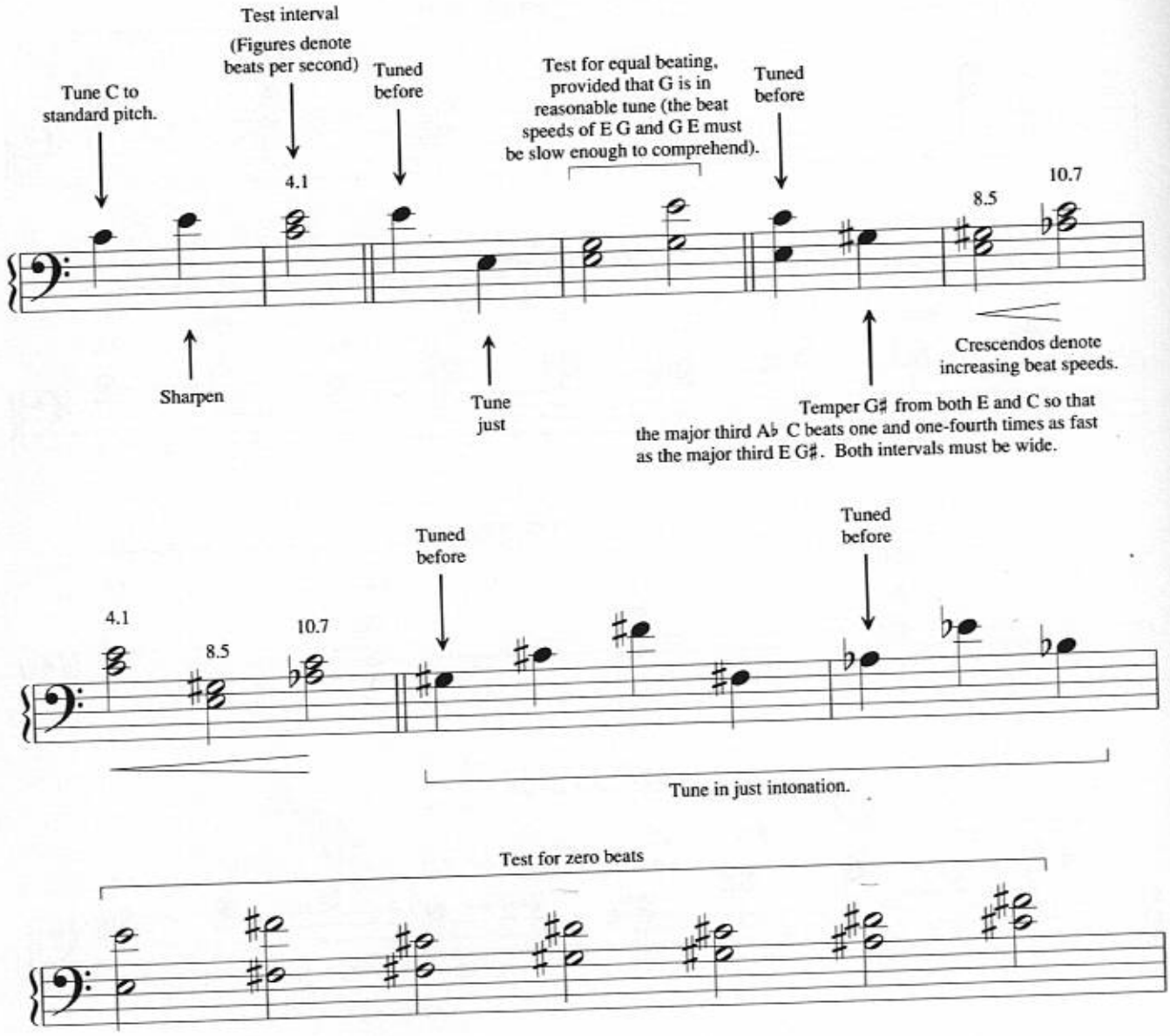
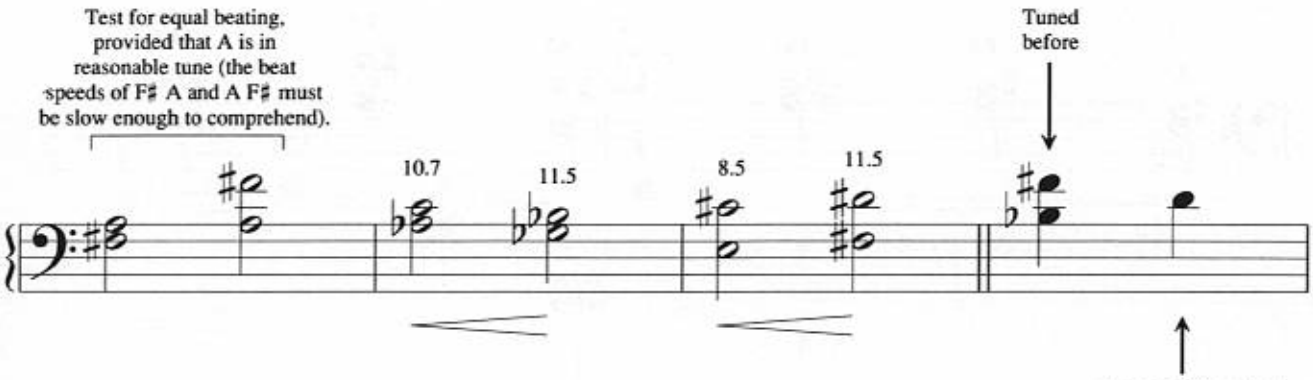
71

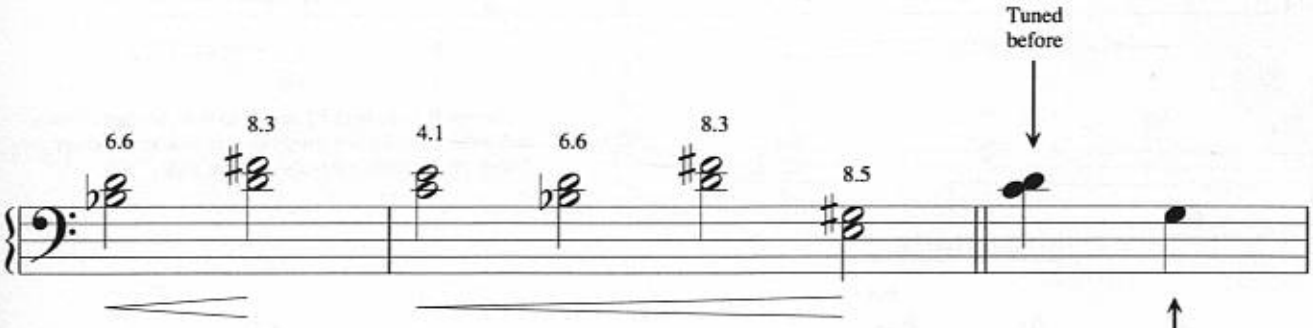
Tuning Thomas Young's Representative Well Temperament Of 1799 In The Theoretically Correct Manner

Tune the following quarter notes in the order written. For examples of beat frequencies, multiply the given numbers by 60 and listen to them on the metronome.

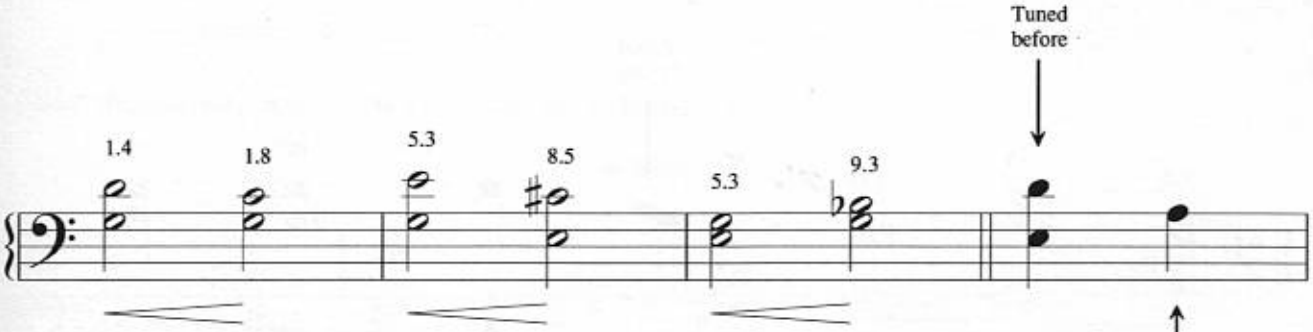




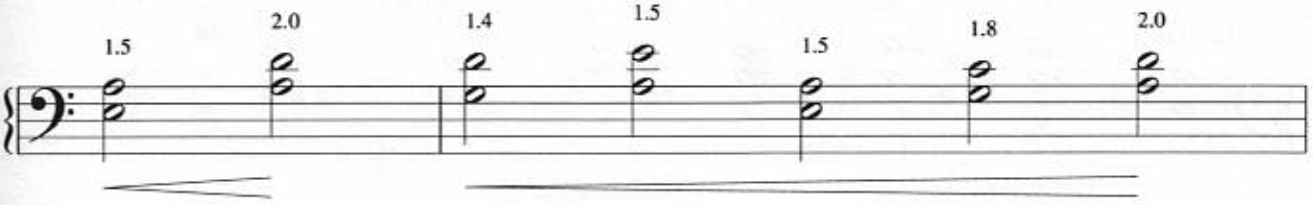
Temper D from both B♭ and F♯ so that the major third D F♯ beats one and one-fourth times as fast as the major third B♭ D. Both intervals must be wide.

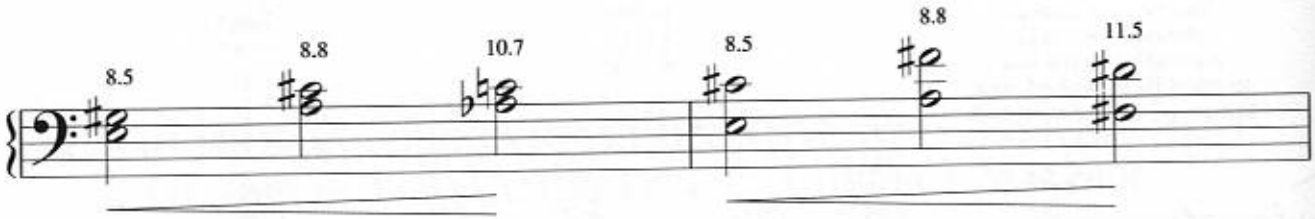


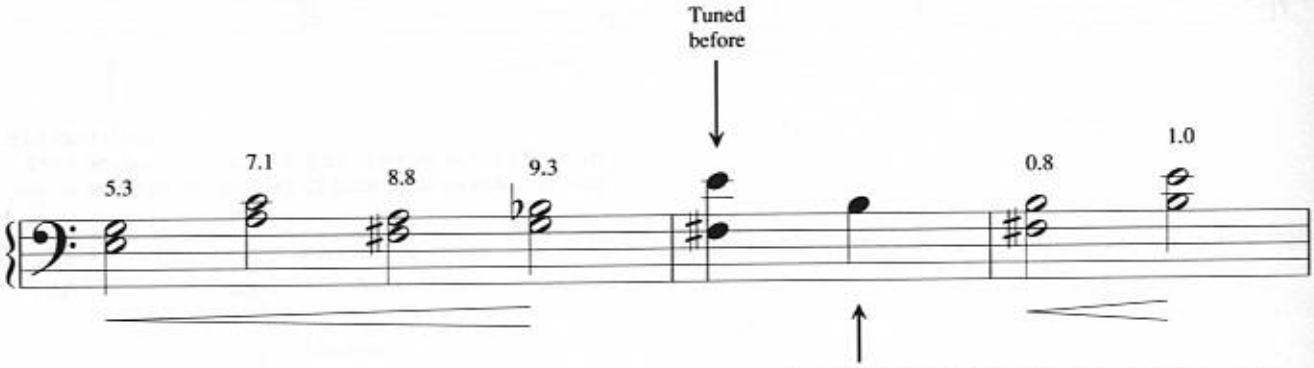
Temper G from both C and D so that the fourth G C beats one and one-third times as fast as the fifth G D. G C must be wide and G D must be narrow.



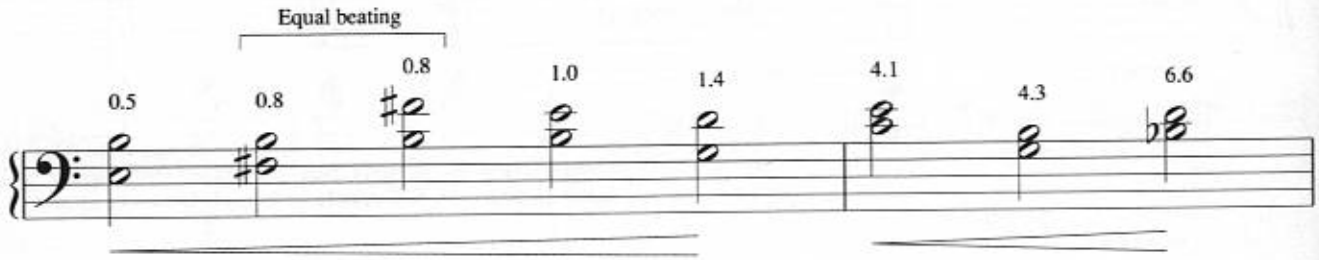
Temper A from both E and D so that the upper fourth A D beats one and one-third times as fast as the lower fourth E A. Both intervals must be wide.

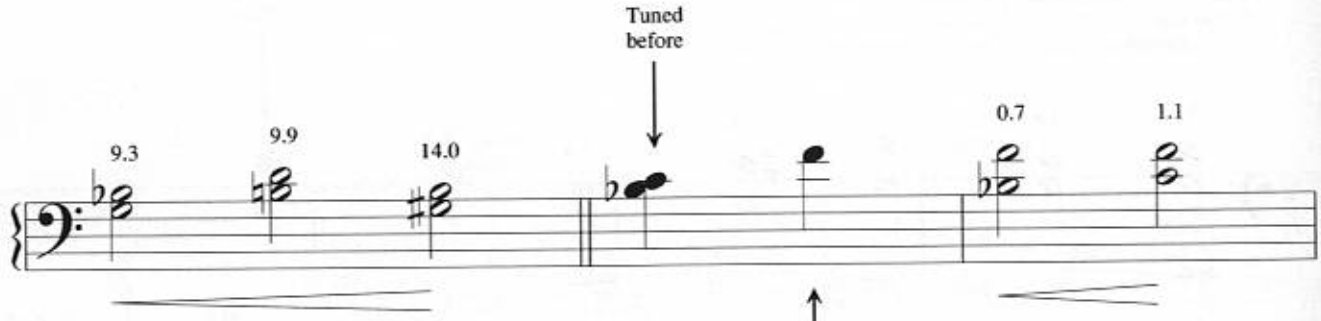




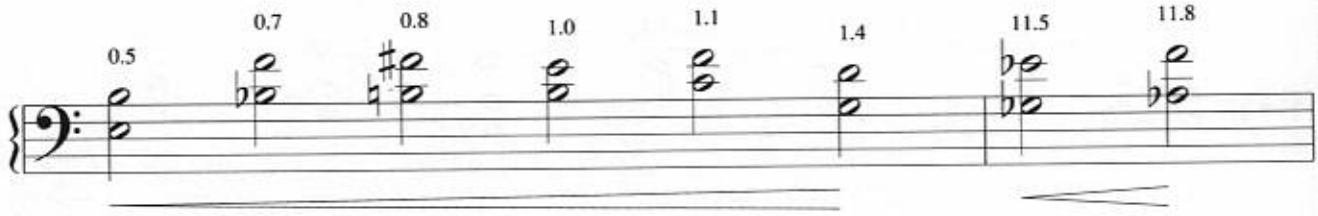


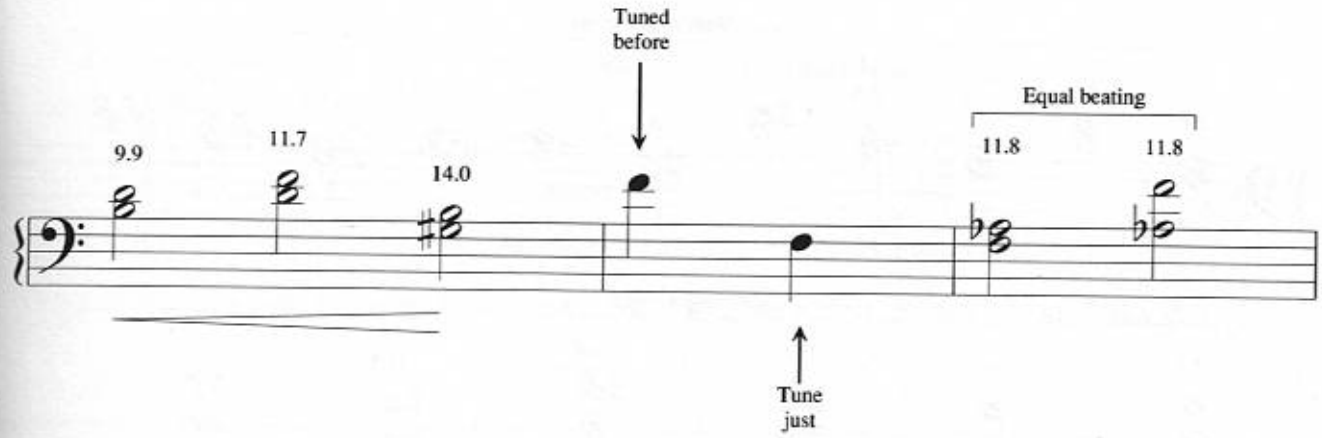
Temper B from both F♯ and E so that the upper fourth B E beats one and one-third times as fast as the lower fourth F♯ B. Both intervals must be wide.

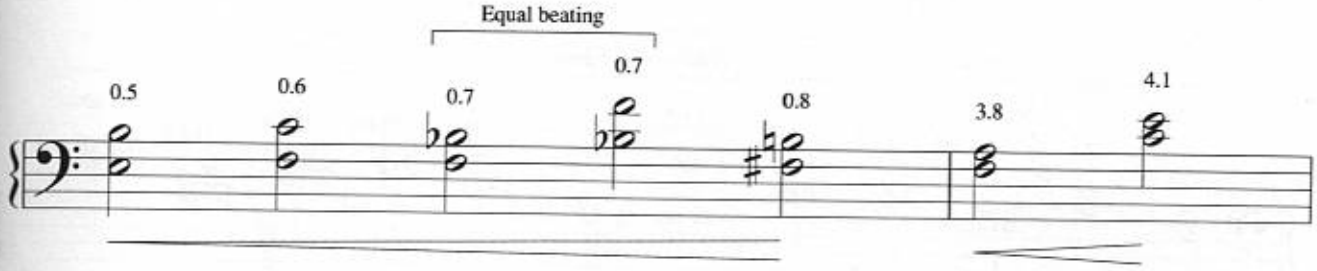


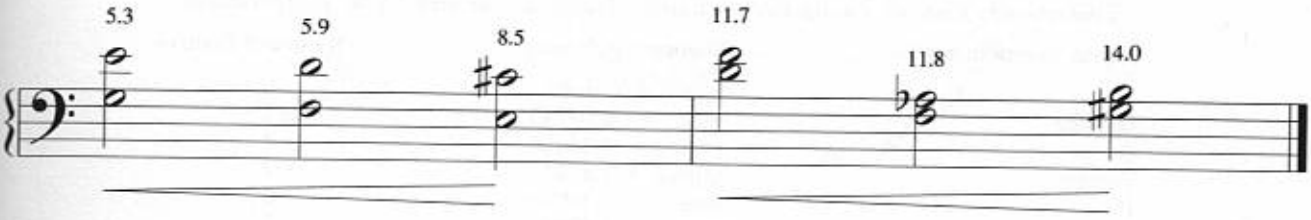


Temper F from both B♭ and C so that the fourth C F beats one and one-half times as fast as the fifth B♭ F. C F must be wide, and B♭ F must be narrow.

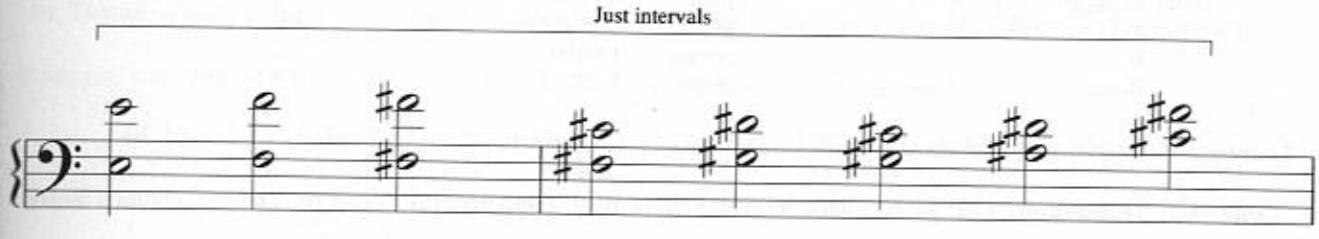


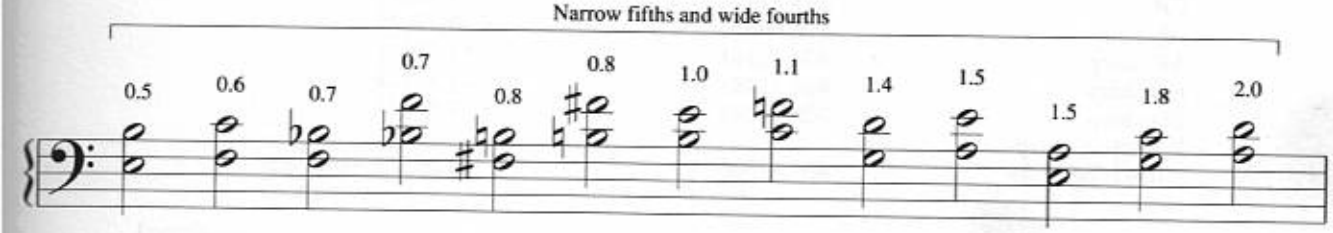






Check the following intervals as a final test within E and F-sharp:





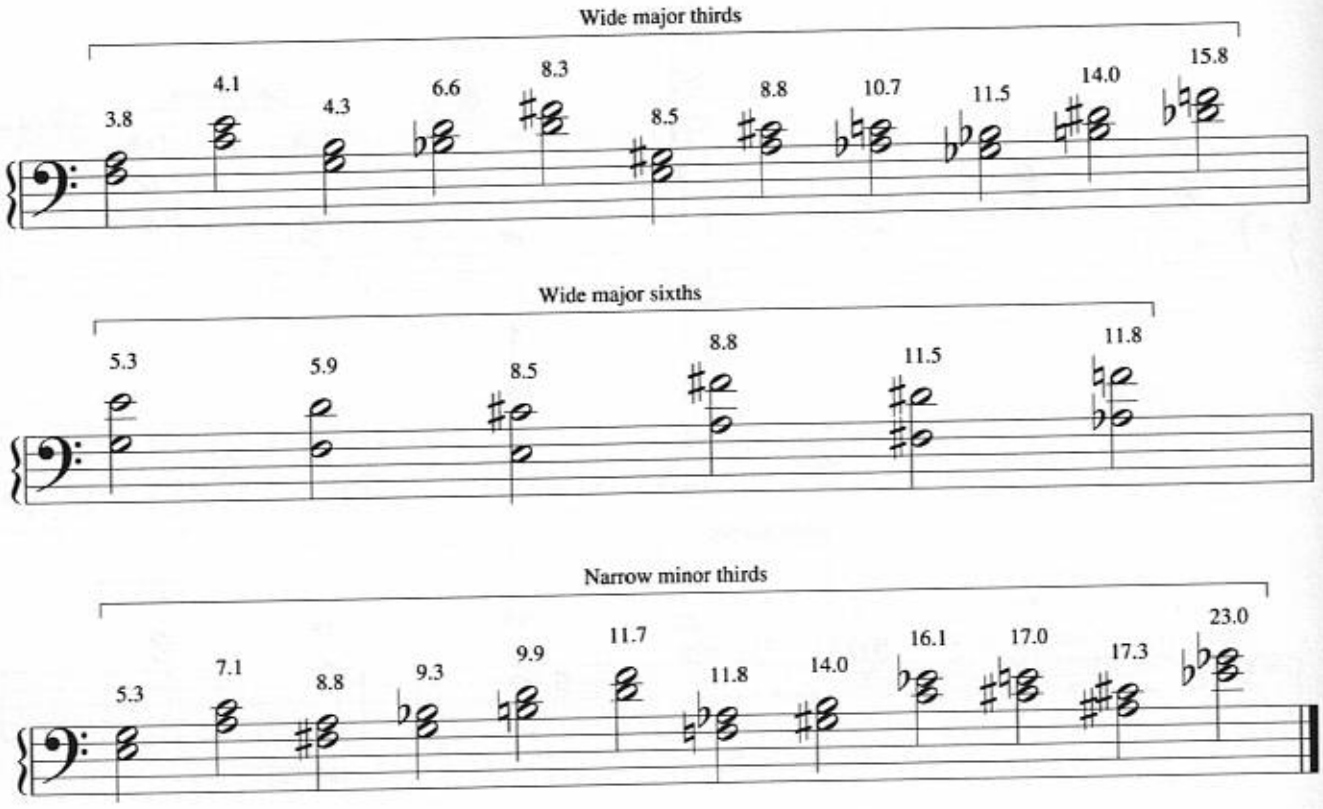


Table 71-1: The Differences in Cents between the Notes of Theoretically Correct Young Representative Temperament and Equal Temperament.

Equal Temperament	Theoretical Young		Rounded Figures
A	zero difference		0 cents
G-sharp	plus	2.07743	+2
G	plus	4.15486	+4
F-sharp	minus	1.83257	−2
F	plus	6.10986	+6
E	minus	2.07743	−2
E-flat	plus	4.03243	+4
D	plus	2.07743	+2
C-sharp	plus	0.12243	0
C	plus	6.23229	+6
B	minus	1.95500	−2
B-flat	plus	5.98743	+6

Compare this table with Tables 22-1, 25-1, 27-1, 40-1, 41-1, 47-1, 52-1, 58-1, 60-1, 61-1, and 70-1.

Table 71-2: Theoretically Correct Idealized Representative Well Temperament Tuned by Thomas Young's Rules.

Major Thirds	Sizes in Cents	Cents Wide from Just
CE	391.69029	5.37657 = ¼ syntonic comma
GB	393.89014	7.57643
DF-sharp	396.09000	9.77628
AC-sharp	400.12243	13.80871
EG-sharp	404.15486	17.84114
BD-sharp	405.98743	19.67372
F-sharp A-sharp or G-flat B-flat	407.82000	21.50629 = one syntonic comma

continued

Table 71-2: Continued.

Major Thirds	Sizes in Cents	Cents Wide from Just
D-flat F	405.98743	19.67372
A-flat C	404.15486	17.84114
E-flat G	400.12243	13.80871
B-flat D	396.09000	9.77628
FA	393.89014	7.57643
CE	391.69029	5.37657

Compare this table with Tables 20-1, 24-1, 26-1, 39-1, 40-2, 46-1, 51-1, 57-1, 59-1, 61-2, and 69-1.

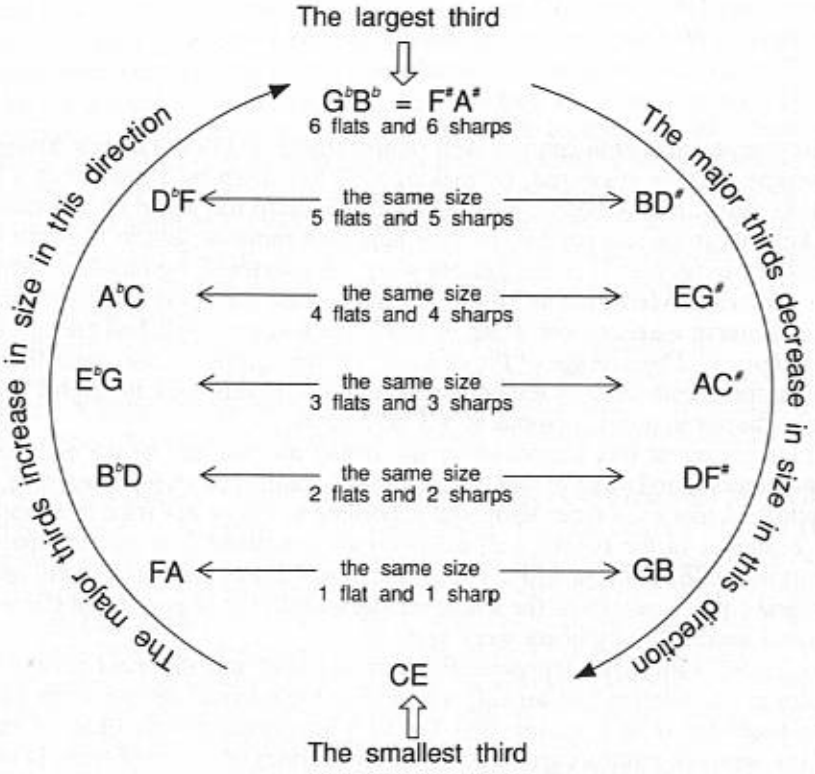


Figure 71-1: The Form of the Idealized Representative Eighteenth-century Well Temperament Tuned by Thomas Young's Rules in the Theoretically Correct Manner from 1799 is the Most Perfect That is Possible.

Compare with Figures 20-1, 24-1, 26-1, 39-1, 40-1, 46-1, 51-1, 57-1, and 69-1.