

## 5.8 ON PRACTICAL TUNING OF VIOLIN PLATES

### GENERAL

The effects of changing material properties and sizes of the plates have been demonstrated. Note that the order of nodal line patterns may change for very large changes of properties, i.e. the sizes of the test blanks must not deviate much from standard. This shift of order implies that it is the resonant frequencies and not the nodal pattern that are the most important. Therefore the frequencies of the blanks obtained by tapping, c.f. Figs 5.6 and 5.19 are very important. The results are supported by experiments with blanks employing the Chladni methods, vibration sensitivity and optical measurements.

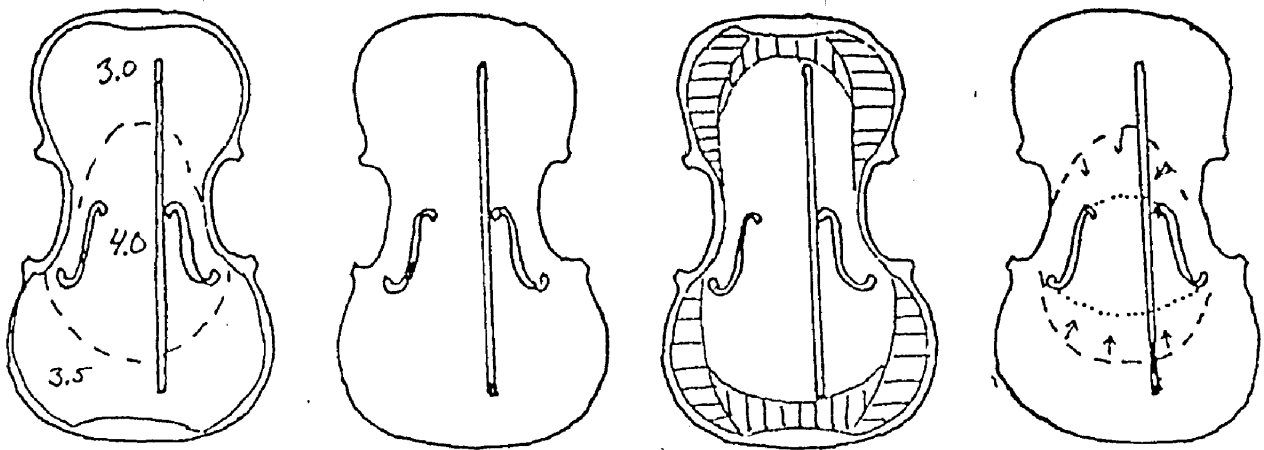


Figure 5.20 General rules for tuning of the second and fifth resonance of the top plate (from Hutchins, 1983).

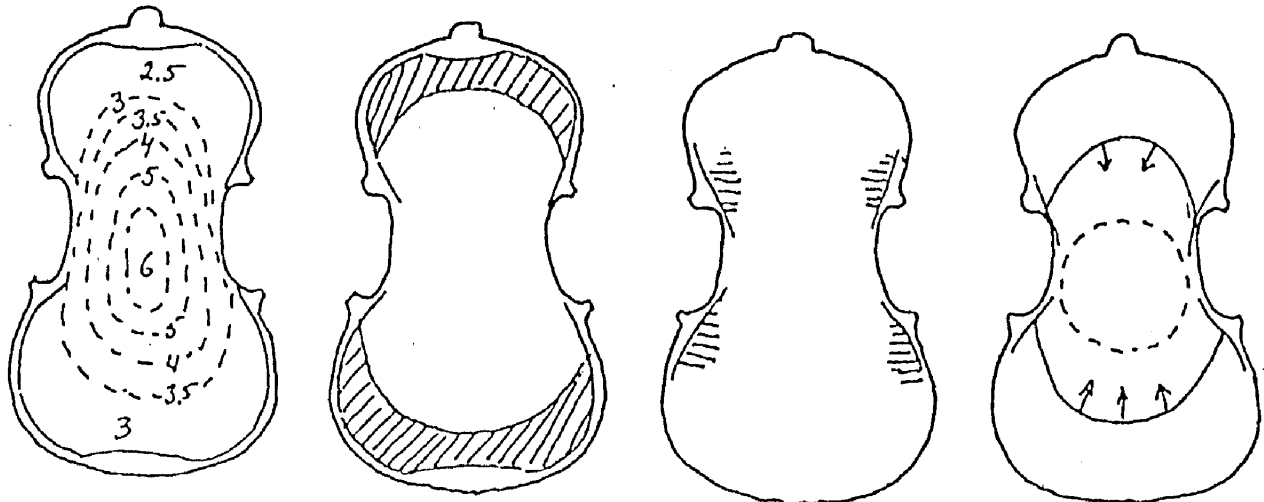


Figure 5.21 General rules for tuning of the second and fifth resonance of the back plate (from Hutchins, 1983).

By means of the tap tone method the violin maker can obtain the resonant frequencies of the three resonances of a blank, c.f. fig. 5.6. He or she holds the blank at a nodal line of the wanted resonance and taps close to an antinode, c.f. fig. 5.6. By keeping a standard size close to ours, the mass, and