

# Perfect intervals

In *The Art of Violin Playing* (1924) Carl Flesch tried to prove that it is ‘impossible’ to play in tune by measuring the distance between A and B<sup>b</sup> played halfway up the A string. The notes are 60 vibrations apart in pitch and 9 millimetres apart in actual distance, i.e. there is one vibration to each 1/6 of a millimetre. He observes that to place the finger at so true a point as to not vary 1/6 of a millimetre, surely you would need an implement with a surface breadth of 1/6 of a millimetre and not the finger, which for some players is 10 millimetres broad at its tip. He goes on to say that even if, by chance, a perfect placement were to be made, it would surely be impossible to achieve this in a rapid series of notes.

Hence what we call “playing in tune” is no more than an extremely rapid, skilfully carried out improvement of the originally inexactly located pitch. When playing “out of tune,” on the other hand, the tone, as long as it sounds, remains as false as it was at the moment of its production.

In the time before the Berlin Wall was taken down, very little information about string playing in the former Soviet Union reached us in the West, and every scrap was precious. I often recall an Eastern European student of mine showing me a book on violin playing written in Czechoslovakian. Excitedly, I asked him to turn from chapter to chapter reading me key points. What did it say about vibrato? What did it say about tone? The first sentence of the Intonation chapter stated: ‘It is not possible to play the violin in tune; but it is possible to give an impression of playing it in tune.’

Nowhere is this instantaneous ‘improvement of the originally inexactly located pitch’ more evident than in the playing of double stops. Typically, in a scale of thirds an elementary student sits on each out-of-tune interval without adjustment, so that as Flesch says the notes remain as false at the end of their production as they were at the beginning.

The instinctive instantaneous correction is sometimes part of the vibrato (if there is any), since the narrow-as-possible width of the vibrato movement should be more than the falseness of the pitch anyway; partly it comes from the slightest re-leaning of the finger on the string. For this reason, tension in the hand is one of the main causes of poor intonation. A good analogy is of touching something hot, and you remove your finger in a flash.

## Tuning perfect fifths

If double stops are often the most audible examples of non-instant correction, perfect fifths are often the worst examples if only because they require a special technique of tuning anyway.

- Tune perfect fifths by leaning the finger sideways more on to one string, and then more on to the other.
- Leaning the finger more on to a string sharpens the note; leaning the finger away from a string (towards the other string) flattens the note.
- If the fifth is out of tune and you adjust the finger up or down the string, both notes remain in the same relationship to each other. Instead, you have to find the exact correct balance of the finger across the two strings.

42 Etudes ou caprices, Kreutzer  
No. 37, bar 1

Fingertip leaning more on to A string raises the C and lowers the F

Fingertip leaning more on to D string lowers the C and raises the F

Somewhere in between, the right balance gives a true perfect fifth

- Memorize the feeling of the finger balanced on the two strings when the fifth is in tune, and then go straight to exactly the same feeling when playing the double stop in context.

Few players practise scales or arpeggios in perfect fifths, but it increases your sensitivity to the contact of the finger with the strings if you do, and then the instantaneous correction becomes faster:

- Practise simple scales in low positions:



## Tuning perfect fourths

Perfect fourths are another double stop usually omitted from scale practice, though they exist in some scale books. Again, practice of perfect fourth scales is a good investment of time since they occur constantly in any double stop passages, particularly in Bach:

Partita no. 2 in D minor, BWV1002, J. S. Bach  
Giaccona, bar 1



The perfect fourths in the second and fifth bars of this peak of Western Culture are often the first major hazard for many players, but the intervals are made much more possible if work has previously been done on fourths in general. Practise scales; and perfect fourths in broken thirds are also an excellent way to train a good left-hand position, since you have to keep the third and fourth fingers hovering over their notes:



## Octaves: width of vibrato

If octaves are vibrated too widely, they sound out of tune even though the fingers may be in tune because the string-length of the upper string is shorter than that of the lower string. Being shorter, vibrato has to be narrower. The width of movement that is acceptable on the lower string may be too wide on the upper string; and the difference may make the octave sound out of tune.

Luckily, most players naturally have a narrower vibrato in the fourth finger than in the first; but playing octaves with the third finger may need extra care in keeping the vibrato of the third finger narrow.

- Play first one string on its own and then the other, with both fingers down throughout (as usual when practising double stops).
- Listen carefully to the vibrato on each note, making sure that the intonation remains steady, and that the vibrato of the upper finger is narrower than that of the lower finger:

