How to play scales in tune

This method of tuning scales was the one taught by Dorothy DeLay. I knew that she had devised it herself, but later discovered that Pablo Casals had taught scales in this way too. I teased Miss DeLay about it, saying that I had not realised she had stolen the idea. She laughed and said that she had not known that Casals had done the same thing. 'All I was trying to do', she said, 'was to find some way of getting my students to play their scales in tune!'

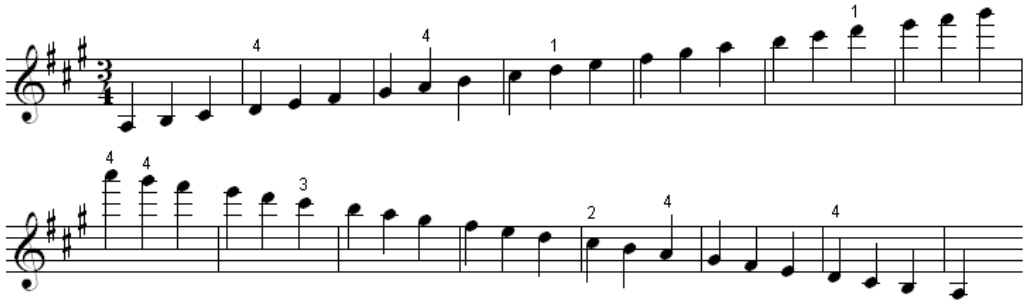
Before playing complete scales, tune each note in the following order:

1 Begin with only the 'skeleton' of the scale, the notes of the perfect intervals: I – IV – V – VIII

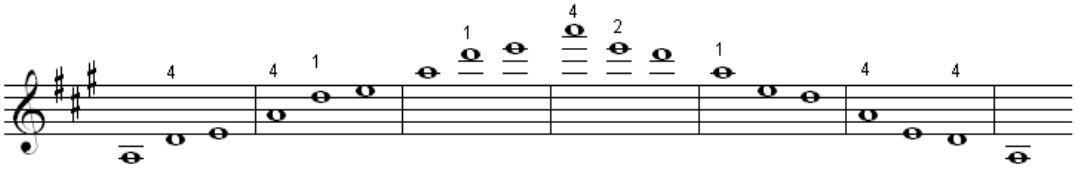
2 Then add the two 'leading' notes: III – VII

3 Then add the II and the VI to give the complete scale, tuning both these notes in relation to the III and VII.

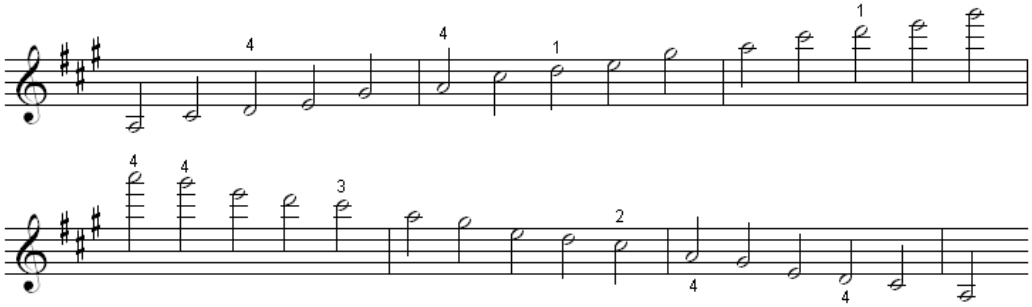
Example: A major



1 Play the 1st, 4th, 5th and 8th degrees of the scale. In this key they are all tuned to the open strings:



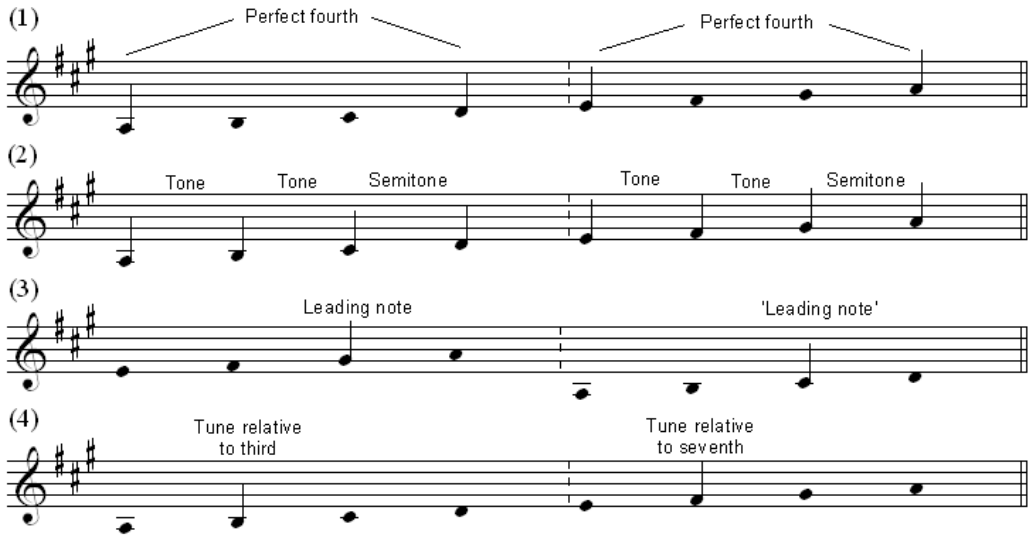
2 Add the 3rd and the 7th. Tune or feel them in relation to the 4th and the octave:



3 Add the 2nd and the 6th (i.e. play the complete scale).

We learn in Music Theory that a major scale consists of the sequence 'tone, tone, semitone, tone, tone, tone, semitone'; but when tuning scales it is more helpful to think of it as 'tone–tone–semitone; tone–tone–semitone'. The two halves are joined by a tone, but including that tone in the sequence hides the true structure which is exactly symmetrical:

BASICS



(1) There is a perfect fourth in each half of the scale.

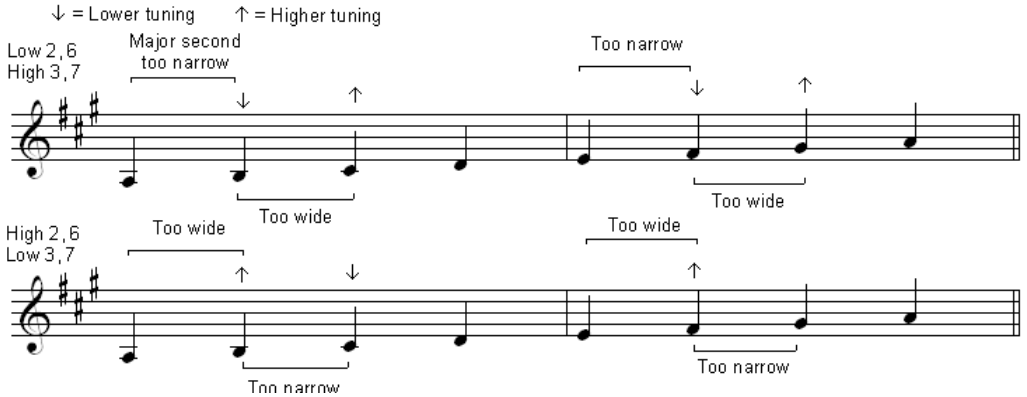
(2) The tone-semitone pattern in each half is the same: tone–tone–semitone, tone–tone–semitone.

(3) The seventh degree of the scale is called the 'leading note', which Casals described as having a 'gravitational attraction' towards the note above. For the purposes of tuning the scale, think of the third degree of the scale as having a similar 'leading note' relationship with the fourth.

How high to tune the two leading notes is a matter of taste; some prefer higher, brighter leading notes; others prefer them lower (more like the tempered tuning of a piano).

(4) The second and sixth notes of the scale must be tuned relative to the third and seventh. If your personal taste is for a higher leading note in each half of the scale, the second and sixth must be tuned higher; if you prefer the leading notes lower, then the second and sixth must be lower.

If instead you play a low 2 and 6 but a high 3 and 7 – or you play a high 2 and 6 but a low 3 and 7 – you get the following unbalanced tuning:



In each case, the A is fixed and must be in tune with the open A string; the D is fixed, in tune with the open D string; and the E is fixed, in tune with the open E string. These are not a question of choice. The C♯ and G♯ are a matter of personal taste; and then these notes dictate the tuning of the B and F♯.

The position of the open-string notes in the scale affects the overall tuning, and to a certain extent contributes to the slightly different character of each key. For example, in the scale of C major you cannot decide as a matter of 'taste' that you want a particularly high E (creating a 'bright third'), since it would then be out of tune with the open E.

Even if you could play a high E, you would then have to play a high D (the second of the scale), and this would then be too high for the open D string. One solution is to play the C as low as possible. But still, this note must be as-near-as-possible to a perfect fourth above the open G, so it cannot go down too low.

Structuring the scale in this way, by beginning with the perfect intervals and then adding the leading notes, completely transforms the intonation. Without it, playing scales in tune may forever remain an elusive goal.