

BASICS

Chromatic scales

Tuning

Chromatic half-steps such as A \sharp -B \flat , D \sharp -E \flat , G \sharp -A \flat , E \sharp -F, are also known as ‘enharmonic intervals’.

On the piano their keyboard position and sound is identical but on stringed instruments and brass instruments like the trombone, their actual pitch is not the same but subject to finer distinction in accordance with the higher and lower tonal character of sharp and flat keys. This ‘enharmonic’ relationship exists throughout the entire system of established musical notation.

Leopold Auer, *Graded Course of Violin Playing Volume 2*

The first question in playing chromatic scales is how to tune the sharps and flats. On a keyboard F \sharp and G \flat sound the same. On a string instrument they may be played like that too, in the ‘middle’ of the note, but often an F \sharp can be slightly higher so that it ‘leans’ towards a G, and a G \flat can be slightly lower so that it ‘leans’ towards an F. The great Spanish cellist Pablo Casals called this ‘gravitational attraction’, and the term ‘expressive intonation’ (as opposed to ‘tempered’, keyboard tuning) is usually attributed to him.

So when playing scales, should the chromatic scale be tuned evenly, as on a keyboard, or with expressive intonation with higher sharps and flatter flats? The best approach is to practise both ways, because you need both in the general repertoire. But the question of playing expressively is further complicated by the exact notation of the scale. The general rule is ‘sharps going up, flats going down’, but not every scale book sticks to this. In many a mixture of accidentals is given, both ascending and descending:

The simple rule for tuning semitones is that if the letter name is the same (for example C-C \sharp), the interval is played wide; if the letter name is different (for example C-D \flat) it is played narrow. So playing the Flesch notation the second note (B \sharp) would be tuned higher, closer to the C \sharp , while in the Gilels notation the second note (C) would be played lower, closer to the B, with a wider space between the C and the C \sharp .

Casals advocated expressive intonation even when playing with the piano, but you have to keep your ears open and be ever alert to the danger of expressive accidentals clashing with the piano’s tempered tuning.

Semitones with one finger

The Russian-American teacher Raphael Bronstein (student of Auer) said that when moving a semitone with one finger you have to be careful not to make it too narrow. It must not end up almost like a quarter-tone.

- Note how far apart the fingers are, then shift the same distance:

When moving a half-step (semitone) with the same finger the distance must be felt larger than anticipated because each half step is equal to the width of the tip of the finger and so must be compensated for’.

Raphael Bronstein, *The Science of Violin Playing*

Keeping the thumb in one place on the neck

While there are many ways of fingering the chromatic scale up or down the E string, in 1st position there are two fingerings: the slower, sliding fingering 1-1, 2-2, 3, 4, and the faster, ‘shifting’ fingering 1, 2, 1, 2, 3, 4:

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In either case, keep the left hand in one basic position and reach the accidentals by moving the finger. Do not make a shift of the entire arm to go from note to note. Keep the thumb in one place on the neck.

The danger to avoid in the sliding fingering 1–1–2–2 is that when you play first finger G[#] you put the hand into 1/2 position and then shift to 1st position to play the A. Instead, keep the hand in 1st position and reach back with the first finger to play the G[#].

Equally, do not then shift from second finger B^b to Bⁿ, ending up with the hand placed somewhere between 1st and 2nd position. It helps if you keep the first finger held down on A while you move the second finger:

Base the hand position on the first finger A, and reach back with the first finger for the G[#] Reach back

Use the following simple exercise as a quick warm-up to ensure the independence of each finger:

Hold down without playing. Balance the hand on the fourth finger and reach back.

Play the same patterns on the other pairs of strings:

Similarly, in the shifting fingering 1, 2, 1, 2 the thumb should not change its position on the neck of the violin. Otherwise you get this: playing the first finger G[#] and second finger A the hand is in 1/2 position; playing first finger A[#]/B^b the hand is now in 2nd position; playing second finger Bⁿ the hand is in 1st position again. Keep the thumb in one place so that the hand stays in 1st position throughout. Otherwise the hand can lose its orientation and intonation may suffer.

Warm-up exercise: quarter tone scale

Quarter-tone scales sensitise your ears and fingers to the difference between the middle, tempered tuning of a sharp or flat, and the expressive pitches very slightly either side of it.

- Occasionally practise quarter-tone scales as a good test of listening, and to discover how far you can go in squeezing semitones together expressively. After quarter-tones a semitone seems a huge distance:

Next month's BASICS looks at some of the reasons for aches and pains and muscle fatigue.