Building the scale in stages

An important and original feature of this book is that scales are built up in stages, with notes added in a particular harmonic order. The word “scale” comes from the Latin word “scala”, which means “ladder”. But whereas when we climb a ladder we need only focus on one rung at a time, a scale should be built and structured so that each note is felt according to its position in the key, and its relationship with the rest of the scale.

The Catalan cellist Pablo Casals, widely regarded as one of the most influential musicians of the 20th century, taught scales in this way, as did the American violinist Dorothy DeLay, one of the foremost violin teachers at the end of the 20th century. She devised the same approach as Casals, without knowing that he had thought along the same lines. “All I was trying to do,” she said, “was to find a way of getting my students to play their scales in tune!”

We are taught that the major scale is made up of the series tone–tone–semitone–tone–tone–tone–semitone. But this obscures the true symmetry of the scale, which is revealed if you think of it as two groups of four notes (tetrachords), each comprising tone–tone–semitone, which are joined by a tone. Minor scales are similarly made up of two tetrachords and can also be thought of as two equal halves, even though the pattern of tones and semitones are not the same in each half.

Casals and DeLay structured the scale as follows. Begin with the notes of the perfect intervals (the first and fourth notes in each half of the scale): I, IV, V, VIII (in A major: A, D; E, A), all the way up the scale and down again. Then add the leading note (G♯ in A major), feeling what Casals called its “gravitational attraction” upward to the tonic and the third (C♯), feeling it as a “leading note” to the fourth. Of course, the third is not a leading note like the seventh, but for the purposes of tuning the scale it can be treated as such.

Next, add the second and the sixth (in A major: B and F♯). These should be tuned according to how high you pitch the third and the seventh – which, to some degree, is a matter of taste. If you choose to play the thirds and sevenths higher, the seconds and sixths have to be higher too, otherwise you will have adjacent whole tones which are unequal.

The sequence taught by Casals and DeLay is musically satisfying in both major and minor keys, but in the major it is particularly effective because you can measure the third and the seventh in relation to the fourth and the octave. It is not quite so satisfactory for helping to measure the flattened thirds and flattened sevenths in the minor scale. So, in some sections I have added a further stage before stage 2: after playing I, IV, V, VIII, play I, III, V, VII, i.e. the first and third notes of each half. In other words, first play perfect fourths starting on the tonic and on the fifth; and then play major or minor thirds starting on the tonic and the fifth.

When I first began to add this new stage it was intended to be used only in minor scales. Soon it became obvious, because of the new light it casts on the third and seventh, that it is also very helpful in the major scale too.

Writing out the stages in each scale

The basic outline of the Carl Flesch Scale System first appeared in Volume 1 of Flesch’s Art of Violin Playing (1924). It was written out only in C major in the belief that players would naturally apply the same patterns to the other keys as well. However, some years later
Flesch realized that because the system was shown only in C major, most of his students practised scales only in that key and rarely, if ever, in any other. So he wrote out the scale and arpeggio sequences in all the keys, added bowing and rhythm patterns, and Das Skalensystem came into existence.

Similarly, while I saw Dorothy DeLay teach how to tune the scales in individual lessons, in master classes and in her technique classes at the Aspen Music Festival, I only ever saw her demonstrate it in A major. Having shown how to do it, she expected students to apply the same logic to all the other keys. I do not know how many of her students did, but I have always suspected that few of mine do so without needing constant reminders.

For this reason, I have followed Carl Flesch’s example and, until the final few sections of Scales, written out the stages of building the scale into each key. It seems an obvious, desirable and long overdue solution to have the scales written out in this form so that you can simply read them off the page.

**Held-down finger lines**

Another original feature of Scales is the indication of where and for how long to hold fingers down. Some of these fingers (e.g. the first finger) you would hold down in the normal course of playing to give stability to the hand; others are for the purposes of ‘beneficial exaggeration’ so that afterwards, playing naturally without holding them down, everything feels much easier and more secure than before. These can be adapted to suit the individual hand, with any which feel unnatural or awkward simply ignored. Equally, in some instances you may wish to add extra lines, or to hold fingers down for longer than marked. The habit of holding fingers down, with all the measuring between fingers that then takes place, is one of the foundations of a secure left hand.

**Finger preparation**

While we usually blame the bow when the tone of a note is not clean, many impure sounds are caused not by the bow but by the fingers not being ready on the string.

In natural, musical playing, the fingers prepare themselves and stop the string an instant before the bow moves. ‘Just in time’ is usually the right moment for the finger to be ready on the string. But in many sections of Scales, the important fingers to prepare are shown as stemless, diamond-headed notes: place these fingers extra early, again using beneficial exaggeration. Play slowly and prepare the fingers very deliberately: prepare then play. Afterwards, when you play normally, your fingers will again prepare themselves instinctively but with a new reliability.

Often, the prepared fingers should be exactly in tune without needing adjustment before sounding them. But just as often – especially when preparing fingers a semitone apart – if you were to play the prepared fingers without first adjusting them, they would probably not be exactly in tune.

To play semitones in tune, the fingers often need to be squeezed closer together than they are when placed side-by-side on the string. It all depends on the width of your fingertips and how high up the fingerboard you are. In those cases where it is impossible to prepare fingers in tune, still begin to get ready early, as marked by the diamond-headed notes, but the fingers will not find their true place on the string until the instant before the note is sounded.

**What is a scale like when it is played well?**

The three basic building blocks of music are pitch, sound and rhythm. When a scale or arpeggio is played at the highest standard it is entirely even in all three. The pitch is even – the same letter-names in the different octaves are in tune with each other, with a consistent logic behind the tuning of each note. The sound is even – undisturbed by changes of string, bow, position or finger. The rhythm is even – again undisturbed by changes of string, bow, position or finger.

Evenness does not mean that the scale is played purely mechanically. Each note has its own musical character due to its place in the scale (which becomes clear when you build the scale in stages). A well-played scale is not musically empty, but full of inner tensions. And in performance it is usually desirable to crescendo to the top of the scale or arpeggio, with a sense of arrival there, unless there are particular reasons to shape it differently.

After evenness of pitch, sound and rhythm, and playing musically, the last element to achieve is effortlessness. Until something feels easy, needing little physical or mental effort, there is more you can do to improve it. One simple approach is that whenever you are pleased with anything, see if you can get that same result but with half the effort. And then the same result with half the effort again.
The basic aim is to be fluent in three-octave scales and arpeggios in every key, and then also in the few four-octave keys, playing them all with good intonation, sound and rhythm, and with a lack of effort. The question is how to get the scales to that level.

Instead of practising only the scale itself, raise your standard of pitch-sound-rhythm-ease by working on the elements of the scale (Parts 1 and 2 of this book). The one-octave scales at the beginning are intended not only for less advanced players, but also for those who can already play the four octaves at the end.

Decide which section (or pages within a section) to practise, and cover many keys or variations within one practice. Or choose a particular key and work on each section of the book in that key only.

Return frequently to the pure three- or four-octave scales themselves, either to practise them or just to see how they sound and feel compared with the last time you played them. But, to improve them at the fastest possible rate, do not spend the bulk of your time practising them; work instead on the practice methods. Foundation work like this is still time spent practising scales: it is simply written-out, excellent practice.

A simple principle of training is to learn to do more than you need, so that what you have to do feels relatively easy. To improve three-octave scales and arpeggios, regularly spend time on the one- and two-octave scales on one string (Part 4). It does not matter if at first they seem difficult, or if your current stage or repertoire does not use those areas of the fingerboard. The point is that after playing them, the three- and four-octave scales feel so much more straightforward and approachable.
Part 1

Scales and arpeggios in low positions without shifting
How to tune each note of the scale

Tune each G, D, A and E exactly with the open strings.

Measure sharps relative to the natural note one semitone above, flats relative to the natural note one semitone below. Sharps may be higher, and flats lower, than their tuning on a keyboard, where B♭ and A♯ are the same.

Whether a sharp or flat is higher or lower than the tempered pitch of a keyboard, or is the same, depends on the key or the place of the note in the scale.

Think of B in relation to C; think of F in relation to E.

Measure C from the perfect fourth above open G, or perfect fifth below G on the D string.

One-octave scales

Place the prepared fingers, shown with diamond noteheads, decisively. Afterwards, when playing without thinking about preparation, the fingers will automatically perform the correct, light, just-in-time placement naturally.

In this section, the octaves at which B♭, B, C and D♭ are presented have been varied in order to optimize the range of positions covered.

One-octave arpeggio sequence

This is the arpeggio sequence used by Otakar Ševčík, later borrowed by Carl Flesch, and used in many standard scale books since:

1 Minor
2 Major
3 Relative minor, 1st inversion
4 Sub-dominant major, 2nd inversion
5 Sub-dominant minor, 2nd inversion
6 Diminished seventh
7 Dominant seventh

Held-down finger lines that end with ‘etc’ mean that the finger should continue to be held down throughout the following bars.
An important principle of tuning chromatic scales is the rule of semitones, which decides whether the two notes are played close (diatonic semitone, notated as a minor second), or played wide (chromatic semitone, notated as an augmented unison):

- If the letter names of the semitone are the same (e.g. C–C♯, E–E♭), the semitone is played wide
- If the letter names of the semitone are different (e.g. C–D♭, E–D♯), the semitone is played close

That leaves the question of how the chromatic scale should be spelt. The usual principle is to use sharps ascending and flats descending, but this varies in different scale books.

So while a chromatic scale in a piece has a clear musical context (although even then one might sometimes disagree with a composer and intentionally play a ♭ instead of a ♯), in a neutral chromatic scale the player can feel a certain degree of freedom of choice.

Keep the left hand still during chromatic scales played in first position. Whether the fingering is sliding or shifting, keep the thumb in one place. For example, in the sliding fingering do not begin on first finger G♯ in half position but keep the hand in first position and reach back with the first finger to find the G♯. Then, moving from B♭ to B with the second finger, do not keep the shape of the finger the same and shift the whole hand: keep the hand still and move only the finger.

In the shifting fingering, keep the hand in first position throughout, without being in half position for the first two notes, then in second position on the B♭, then first position again once the second finger B is played.

In the next section, no. 6, the fingering starting on the third finger demands a fourth-finger extension at the top of the scale. Play this exercise a few times first to make it feel easy.

This section is an excellent exercise for uniform intonation. The point is to make all three fingerings (the same notes played starting on the first, second and third fingers) sound exactly the same, since the right tuning of a note is the same no matter which finger you play it with. When you repeat a group of notes but use a different fingering each time, notes that are not in tune stand out clearly.

The results are often surprising, since it is all too easy to get used to an out-of-tune note if it is always the same degree sharp or flat when played with a particular finger. It is only when you try a different fingering that you realize that the previous pitch which you had accepted as being in tune, actually needs to be adjusted.

Play the harmonic minor by using the same fingering as the major scales.

See no. 6: Two-octave scales and arpeggios
Part 1: Scales and arpeggios in low positions without shifting  See notes, page 2

How to tune each note of the scale

- Exactly in tune with the open string of the same name
- Perfect fourth
- Perfect fifth

Tune high, or relative to natural above
- Midway (in pitch) between the notes either side
- Tune midway like a keyboard

Tune low, or relative to natural below

G

Major

Minor

Aflat

Major

Minor

Gsharp

Major

Minor

Ab

Major

Minor

Bflat

Major

Minor

B

Major

Minor

C

Major

Minor

Part 1: Scales and arpeggios in low positions without shifting  See notes, page 2
Part 1: Scales and arpeggios in low positions without shifting  See notes, page 2

How to tune each note of the scale

- **D♭ major**
- **C# minor**
- **D major**
- **D minor**
- **E♭ major**
- **E minor**
- **E major**
- **F major**
- **F minor**
- **G♭ major**
- **F♯ minor**
Exercise to develop ‘fast fingers’

Also practise with fast triple and double strokes on each note:

Exercise for moving fingers independently of the hand

Hold down without playing

Lightly tap the string

Repeat the sequence with the other fingers:

Part 2: Three-octave scales and arpeggios: preparatory practice
See notes, page 48
Placing fingers in blocks

Prepare three fingers on the string

Drop three fingers with one action

Prepare three fingers on the string

Lift three fingers with one action

Drop three fingers with one action

Prepare

Prepare

Prepare

Prepare

Drop three fingers with one action the instant the bow begins to move

Part 2: Three-octave scales and arpeggios: preparatory practice  See notes, page 48
Apply two-, three- and four-note rhythm patterns to all scales and arpeggios:

**Two-note patterns**

1. 

2. You can also think of (2) as being the same as (1) but beginning on the second note.

Play all rhythms with separate bows as well as slurred.

**Three-note patterns**

Begin three-note patterns on the first note of the scale; then on the second note, playing the first note as an upbeat; and on the third note, playing the first two notes as an upbeat:

Apply the following three-note dotted patterns in the same way, starting on the first, second and third notes of the scale:

The non-dotted three-note group of one long and two short is another key pattern. Play without upbeats:

**Four-note patterns**

Begin four-note patterns on the first, second, third and fourth notes of the scale:
Part 3: Three-octave scales, arpeggios and chromatic scales   See notes, page 120
Unlike three-octave scales (see page 129), there is no single pattern for four-octave scales that divides exactly into groups of 3, 4, 6 or 8 notes; without adding extra notes, groups of 3 or 6 do not arrive back to the tonic on the first beat.

However, it is a simple matter to add extra notes as shown, and in the other groupings simply to play straight up and down without extra notes.
Scales

Arpeggios

Part 5: Four-octave scales and arpeggios   See notes, page 194
Part 5: Four-octave scales and arpeggios

- **G major**
- **Melodic minor**
- **Harmonic minor**
- **Arpeggios**
Part 5: Four-octave scales and arpeggios

See notes, page 194
Scales

Part 5: Four-octave scales and arpeggios

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Scales
Scales and scale studies for the violin

This is a scale book of unprecedented scope. Simon Fischer has developed an entirely new method in which, using the traditional ways of practising scales only as a point of departure, he focuses on numerous often-neglected aspects of the violinist’s technique. For every element he has designed exercises that sensitise the ear, stimulate the mind and build the playing apparatus of the violinist.

The many outstanding features of this book include:

- how to structure intonation around perfect intervals and leading notes
- a new approach to learning how to time shifts
- extensive notation for preparing and holding down fingers
- one-, two-, three- and four-octave scales and arpeggios
- two-octave scales and arpeggios on one string
- new sequences for single-finger scales

Many well-known Fischer classics are also incorporated, including practice methods for intonation, smooth bowing, string crossing, fast fingers, fourth-finger extensions and placing fingers in blocks.

The innovative and wide-ranging material in Scales keeps the player turning the pages, discovering yet more exciting ways to approach scales. The wealth of thought-provoking exercises encourages violinists to re-evaluate their practice – developing the playing skills of violinists at all levels from intermediate to professional.

Simon Fischer

Through his thorough research, rich experience and originality, Simon Fischer has gained a worldwide reputation as a powerful and creative spokesman for the principles of modern violin playing. His influence is based on the wide appeal of his simple, effective and straight-to-the-point explanations and demonstrations. Having studied the violin with Yfrah Neaman in London and with Dorothy DeLay in New York, he has been able to unite – and develop – the best elements of the Franco-Belgian, Russian and American violin traditions.

His work as a teacher has always been informed by the practical experience of a distinguished playing career. He has given many recitals in the UK and abroad, and for the BBC, and has played as soloist or guest leader with major symphony and chamber orchestras throughout the UK. The Gramophone magazine describes his recording of the three Brahms Sonatas as “detailed and loving performances”.

His monthly “Basics” articles in The Strad magazine – more than 250 so far – attract great interest and his technique book Basics is accepted worldwide as a model of teaching and violin study. Other works include Practice, the definitive guide to practising the violin; The Secrets of Tone Production, a four-hour DVD; and Warming Up, described by The Strad magazine as “24 pages of pure technical gold”.

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