

## 8 THE FOUR-FINGER SYSTEM

### 8.1 GENERAL DESCRIPTION

When the higher neck positions are approached, the distance between notes diminishes so that all four fingers may be used independently, with a semitone between each. This is called an 'extended' hand position.

Turn to fig. 8.1(i). Put 1 on d' on the G string, with the thumb in the corner between the body of the instrument and the neck. Then play chromatically upwards, 2,3,4.

Fig. 8.1(i)

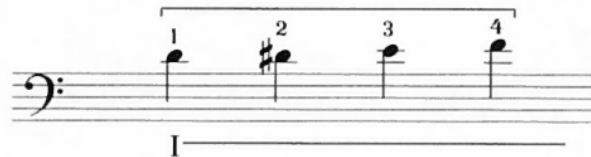


Fig. 8.1(ii)



Fig. 8.1(i) & (ii): Examples of four-finger system.



*Fig. 8.1(iii): Hand position over two strings in four-finger system. (1st and 4th finger depressed.)*

Do not attempt to hold 1 down the whole time, but release it, approximately when the third finger is struck down on e'. This gives more movement to the forearm. In other words a 'rolling' motion is used from 1, via 2 and 3, to 4.

With these extensions, scales of C major and F major can be played across the strings and in one position (see fig. 8.1(ii)).

**Remember:** when changing strings, **both** strings must be held down at the moment the bow crosses. Fingers must anticipate as in 6.2.

If the stretch is difficult, try bending the wrist a little more, so that it rises (but without taking the elbow up with it), at the same time twisting the forearm slightly downwards. Fig. 8.1(iii) shows an extended hand position, with 1 and 4 held down for string crossing.

To develop the independence of the left-hand fingers, use exercise 8.1(iv). Here the first finger remains on the string the whole time. Play it without the bow and without right-



*Fig. 8.1(iv): Four-finger exercise.*

hand pizzicato. The accented notes are struck down hard with the fingertips, while the tied notes are sounded by plucking the string off with the left hand, somewhat like violin LH pizzicato technique. (See also 5.3.)

There is really no limit how far back four independent fingers can be employed. However, the distance between fingers gets bigger and bigger as (Simandl) half position is approached, so that the disadvantages gradually outweigh the advantages. One cannot make any fixed rule, but must rather evaluate the demands of the music at any given moment in conjunction with one's own physical limitations. (Personally, I always use the four-finger system from the 4th position (first finger on d') upwards, and a combination of both systems in lower positions.)

**The main advantage** of using extensions is that more notes can be played in any one position and legato can be better articulated with fewer shifts (and in many cases, greater rapidity).

**The main drawback** is that the more static use of small finger muscles kept in extended position, can lead to fatigue.

On poor instruments there is often a great change of tone colour between one string and the next, making seamless phrases more difficult to achieve in any one position.

One reason why the four-finger system has not become as widely used as one would expect, is that many players have probably attempted to keep the fingers pressed down and extended, without employing the advantageous 'rolling' action of the arm.



*Fig. 8.2(i): Use of the fourth finger in higher positions.*

**N.B.** One should not play extended positions with a compact hand (shifting up and down with one hand shape), but one can allow oneself to gather the hand somewhat together (relax) **between striking down one finger and the next**. The fingers nevertheless must always be struck straight down (in the right place!). The thumb should remain relaxed and approximately behind the second finger, unless it is moved to facilitate vibrato or trills.

## 8.2 THE FOURTH FINGER IN HIGH POSITIONS

The use of extended fingering brings with it the possibility of using 4 in positions higher than one might expect. Raising the wrist a little (see 8.1) enables the hand to reach at least  $g'$  with 4, without trouble. By raising the wrist even further, and directing the hand somewhat towards 4, it is even possible to reach  $a'$  with this finger. The thumb slides up **beside the neck**; the elbow hangs down as low as possible. This is shown in fig. 8.2(i), where 4 is on  $a'$ . Rolling the hand backwards, from  $a'$  with 4, to  $g'$  with 2, and down to  $f'$ -sharp with 1, a passage such as that shown in fig. 8.2(ii) can easily be played on one string, without continually changing in and out of position.

'Rolling' the hand is necessary both to clear the instrument and to make the whole operation an organic movement with natural angles for the playing fingers. If a wide vibrato is required in this playing position, release the thumb. Such positions as these are most often used in conjunction with adjacent normal positions.

Fig. 8.2(ii)

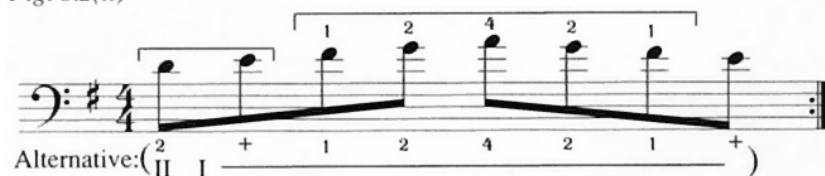


Fig. 8.2(iii)



Fig. 8.2(iv)



Fig. 8.2 (ii)–(iv): Practical application of fourth finger in higher positions.

There is no definite upper limit to the use of this technique, but it is seldom effective above  $a'$ . In such high positions 3 is not usually employed, the combination with 4 being rather uncomfortable due to the angle (unless one has a rather long fourth finger). Conversely, 3 is perfectly comfortable on  $f'$ -sharp in a position where 4 is on  $g'$ , etc.

Fig. 8.2(iii) shows a special case (from Bach Suite No.3, played in G major) where use of 4, by means of a quick shift to  $b'$ , enables the passage to be played on the G and D strings, instead of moving into thumb position.

Fig. 8.2(iv) shows several useful **extensions** between 1 and 4. These are easiest when 1 is on a lower string than 4, but are also possible on the same string (a major third lies under the hand).

In thumb positions 4 can also be used, for example, 8.2(ii) could also be played with the thumb on  $e'$  thus: 2 on the  $d'$  (harmonic) - + -1-2-4-2-1- +. Even if this seems a bit far-fetched, there are many situations where such hand-positions can be very helpful. The next section gives a few.

### 8.3 EXERCISES AND EXAMPLES

The exercises and excerpts below show how the four-finger system can be applied to well-known 'problem-places' in the orchestral and solo repertory. The latter are in themselves excellent studies. The extent to which the four-finger system can be employed instead of more traditional fingerings, depends largely on the degree of relaxation the player can attain when using it.

Fig. 8.3(i) An intonation exercise, also eminently suitable for daily warming-up. Use the weight of the arm the whole time (see 5.2).



Fig. 8.3(ii) Warming-up exercises for finger strength and independence. Play this in one position. Transpose it to the other strings as well. (If one wants a more 'finger-breaking' exercise, the one shown in fig. 5.9(i) can be transposed up a whole tone, and played with 1, 2 and 3 or 2, 3 and 4).



Fig. 8.3(iii)



Fig. 8.3(iv)

**Allegretto pomposo**



Fig. 8.3(v) Saint-Saëns: "L'Éléphant" (Carnival of the Animals). These bars can be played in two positions. Perhaps it makes for unnecessary string crossing, but the passage is often played out of tune, and this fingering can improve it. Gentle string crossings with the bow are essential, so as not to disturb the cantabile.



Largo ♩ = 52

*mf* *cresc.* *f* *cresc.* *ff*

Fig. 8.3(vi) Dvorak "New World" symphony.

Allegro moderato

a)

*ff*

b)

*con fuoco* *ff*

Fig. 8.3(vii) Mendelssohn: "Fingal's Cave".  
Make sure to employ a good rolling movement in example b.

Presto

*pp*

Fig. 8.3(viii) Mozart: Overture "The Marriage of Figaro".

*Allegro assai*  $\text{♩} = 132$

a)

*f*

b)

*f*

Detailed description: This figure shows two parts of a musical score for a string instrument, likely a cello or double bass, in the key of B-flat major. Part (a) is marked 'Allegro assai' with a tempo of quarter note = 132. It begins with a forte (*f*) dynamic and features a series of eighth-note patterns with various fingerings (e.g., 2-1-4, 2-2-0-4, 2-1-2-1) and slurs. Part (b) also starts with a forte (*f*) dynamic and contains more complex rhythmic patterns, including triplets and sixteenth-note runs, with fingerings such as 4-2-1-3 and 4-2-1-4-2. The score is written on two staves per part, with a bass clef and a key signature of two flats.

Fig. 8.3(ix) Mozart: *Symphony No.40*. Make sure that the bow crosses strings with as little movement as possible.

*Lebhaft*

*ff*

Detailed description: This figure shows a musical score for a string instrument in 2/2 time, marked 'Lebhaft' (lively) and 'ff' (fortissimo). The score is written on three staves, each with a bass clef. The music consists of complex rhythmic patterns, including triplets and sixteenth-note runs, with various fingerings (e.g., 1-1-2-4, 1-1-2-4, 1-1-2-4) and slurs. The key signature is B-flat major. The score is highly technical, focusing on precise bowing and fingering.

Fig. 8.3(x) Hindemith: "*Kammermusik No.1*"



*Allegro ma non troppo*

*p*

Fig. 8.3(xi) Dvorak: *Symphony No.4*. Extended hand position is used here to attain better articulation.

*Moderato assai*

*cresc.*

*ff*

Fig. 8.3(xii) Tchaikovsky: *Violin Concerto*.

*Tempo molto allegro*

*cresc.*

*ff*

Fig. 8.3(xiii) Tchaikovsky: "Trepak" from the "Nutcracker" suite.

a) Ruhig  $\text{♩} = 108$

*f*

*cresc. sempre*

*ff*

*cresc.*

*fff*

b)

*ff*

*fff*

Fig. 8.3(xiv) Bruckner: *Symphony No.7*. These examples should be practised slowly, with great attention to intonation. The four-finger system is widely used, but is sometimes combined with a major third extension, or with traditional fingering. Example b includes the use of 4 in high positions.

*Allegro* (♩ = 132)

*ff*

Fig. 8.3(xv) Haydn: *Symphony No.88*. This example develops the independence of 4 when crossing strings. In bars one and five 4 must be barred on the third and fourth, and seventh and eighth semiquavers.

*Allegro con spirito*

*ff*

Fig. 8.3(xvi) Haydn: *Symphony No.88 (Finale)*. The constantly repeated semiquaver passages can most clearly be articulated by using the four-finger system.

*Allegro con spirito* ♩ = 92

unis.

*f*

Fig. 8.3(xvii) Haydn: *Symphony No.103 (Finale)*. Bars four and five will probably present more problems for the bow arm than for the left hand. Practise slowly, paying great attention to economy of movement when crossing strings with the bow.

*Allegro con spirito*

(♩ = 84)

*f*

Fig. 8.3(xviii) Mozart: *Symphony No.35*. On account of the rapid tempo it will be a great advantage to reduce the number of changes of position. These could have been even fewer than is suggested here, but the need for a lot of tone dictates the choice of strings indicated.

Allegro (♩ = 144)

Fig. 8.3(xix) Mozart: *Symphony No.39 (Finale)*.



*Allegro vivace* (♩ = 69)

Musical score for Beethoven's Symphony No. 8, bass clef, 3/4 time. The score consists of six staves of music. The first staff begins with a tempo marking "Allegro vivace" and a quarter note equal to 69. The music features various dynamics including *sf* and *ff*, and includes fingering numbers (1-4) and articulation marks (V).

Fig. 8.3(xx) Beethoven: Symphony No.8.

Musical score for Richard Strauss' "Don Juan", bass clef, 3/4 time. The score consists of two staves of music. The first staff begins with a dynamic marking *ff* and includes fingering numbers (1-4) and articulation marks (V). The second staff begins with a dynamic marking 5 and includes a tempo marking *calando* and fingering numbers (1-4).

Fig. 8.3(xxi) Richard Strauss: "Don Juan".

Früheres Zeitmaß, (mäßig langsam).

The musical score consists of five staves of music in bass clef, 2/4 time. The first staff begins with the instruction 'arco' and a dynamic marking of *f*. It features a series of triplets with fingerings (1, 3, 4, 1, 4, 2, 3, 2, 1) and a crescendo leading to a *ff* dynamic. The second staff starts with *f*, includes a *ff* section with a triplet and fingerings (1, 4, 0, 1, 4, 1, 2, 2, 1, 1), and a *sfz* section. The third staff begins with *f* and contains several triplet passages with various fingerings. The fourth staff starts with *ff* and features a triplet with fingerings (0, 1, 4, 0, 1, 1, 0). The fifth staff begins with *ff*, includes a triplet with fingerings (1, 3, 4, 1, 2, 1, 4, 3, 3, 1), and concludes with an *accel.* marking and a triplet.

Fig. 8.3(xxii) Richard Strauss: "Also sprach Zarathustra".

a) *Allegro moderato*

b)

Fig. 8.3(xxiii) *Vanhal: Concerto*. Take care to keep both G and D strings well down during the string changes in example a, third and fourth bars.

*Allegro*

Fig. 8.3(xxiv) *Rossini: "Duetto per Violoncello e Contrabasso"*. To avoid a dull sound on the A string, bow nearer the bridge!

*Molto adagio* ( $\text{♩} = 50-52$ )

a) 


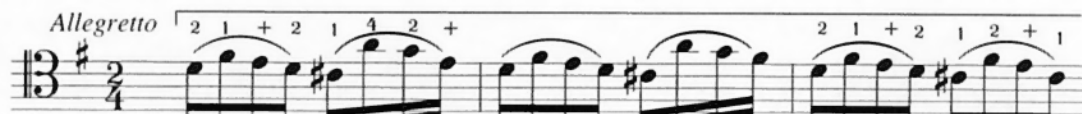
b) 

Fig. 8.3(xxv) Hindemith: Sonata.

*Allegretto*




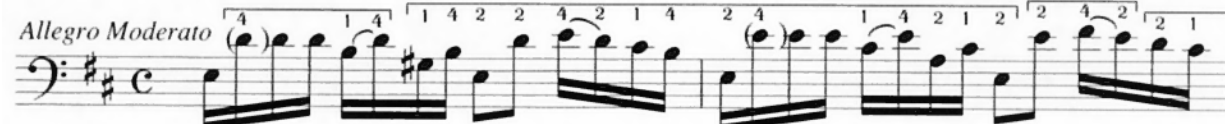




Fig. 8.3(xxvi) Schubert: "Arpeggione". In this example (and the following one) the special fingering and hand-positioning technique mentioned at the end of 8.2 should be employed.

*Allegro Moderato*










Fig. 8.3(xxvii) Dittersdorf: Concerto No.2.