

5 THE LEFT ARM

5.1 POSITION OF THE HAND

There are normally three ways of grouping the left hand fingers within one position at the first octave of each string.

The Simandl system, which is most common, has a semitone between 1,2 and 4 (index, middle and little finger).

The Italian system has semitones lying between 1,3 and 4.

The Francke system has semitones between 1,2 and 3 and 4, thereby reaching a larger number of notes within each position (described in chapter 8).

Each system has its pros and cons, and one's choice should be based on individual, physical abilities of the hand as well as considerations of tradition and school. In practice, a combination of systems is often advantageous.

In all systems the string is pressed down with the finger-tips, as shown in the photographs, fig. 5.1(i) a and b (fingers grouped in Italian system here). Note how all the joints are a little bent, forming an even curve from the wrist to the fingertips.

The thumb should grip lightly, in the middle of the neck, approximately behind the first and second fingers. It must not point upwards to the scroll, nor should it slide round the neck. Fig. 5.1(ii) shows the best position for the left thumb.



Fig. 5.1(i)a: Correct position of left hand (Italian system).



Fig. 5.1(i)b: Correct position of left hand (Italian system).



Fig. 5.1(ii): Correct position of thumb on the neck.



Fig. 5.2(i): Wrist drawn back to provide support for the first finger.

Only when the thumb is placed correctly, can it give equal support to all the fingers, without hindering position changes. The thumb must always be relaxed. When changing position it should follow after the hand without dragging.

The fingertips should normally **touch only one string at a time**. This is important when changing strings. A good exercise in the first (Simandl) position is shown in fig. 5.1(iii). The 4th finger should be on the string, holding it down, from the second note of the first bar, until the last note of the second. The 1st finger should remain in place during the whole of the third bar.

Only in special circumstances should the last finger joint be allowed to 'collapse' (see section 6.3 - use of barrée = barred fingering).



Fig. 5.1(iii): Exercise for keeping non-playing fingers in position.

5.2 THE WEIGHT OF THE ARM

When changing from one finger to another in the same position, the finger "playing" must always have the weight of the arm behind it. This means that the forearm should **not** be in the same position when the string is held down with the 1st finger as when played with the 4th finger. The whole forearm should accompany the movement of the 4th finger as it strikes the string. (**Strike**, not **press** being the operative word.)

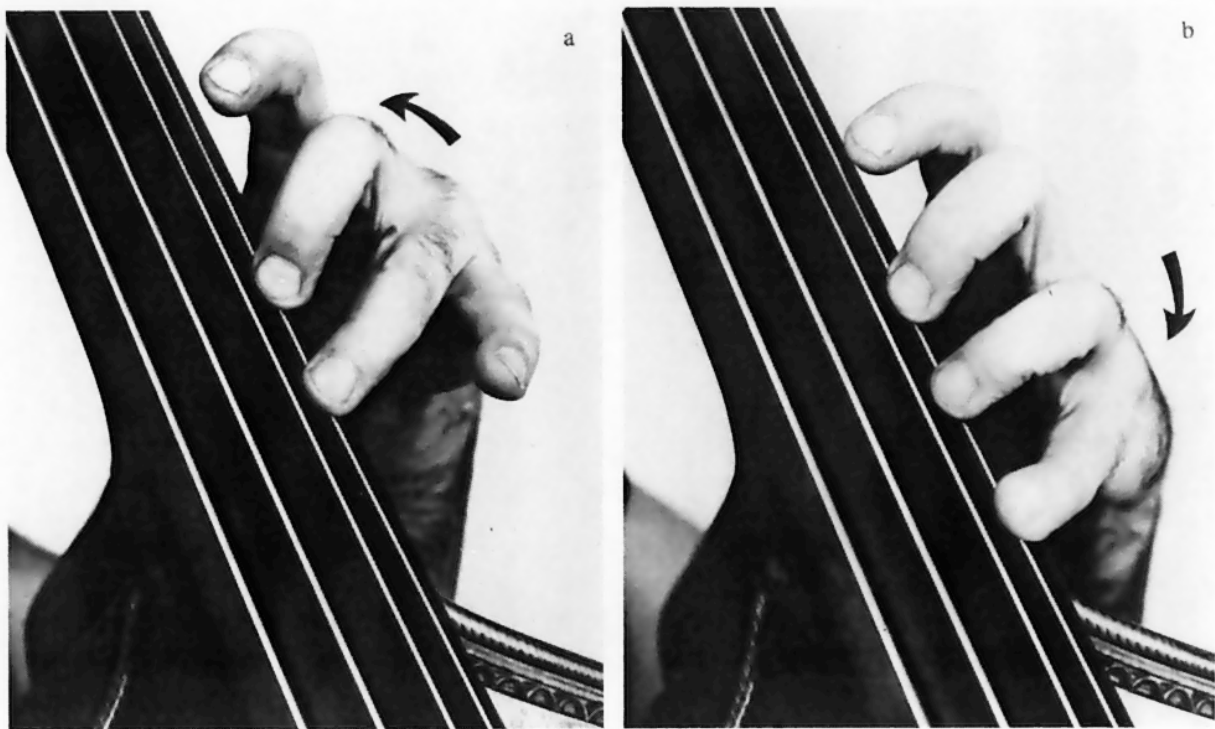


Fig. 5.2(ii) a & b: Flexibility in 2nd and 3rd fingers allows 4th finger (and the wrist) to move freely. (Shown here with extended fingering.)

When changing from the 4th finger to the 1st, the wrist and forearm are raised to bring the arm weight back to the 1st finger (see fig. 5.2(i)). Even when playing a rapid trill we move the forearm in this way and do not leave it to one finger alone to make the change of note. (This is the same movement of the forearm as when playing vibrato - see section 7.1.) Use of the fingers alone when trilling, can cause unnecessary tension and fatigue.

There are several reasons why the whole forearm is used:

1. By using larger muscles, which are more powerful, less is demanded of the small finger muscles.
2. By using more weight, resistance from the string is less noticeable. Greater velocity in striking the string gives clearer articulation.
3. Finger muscles need blood to work effectively: if blood supply is inadequate, fingers quickly tire. As has already been discussed (1.4) blood circulation is dependent upon **muscular activity**: forearm movement will, therefore, increase stamina.

An experiment will prove this point. Play a slow trill with the 1st and 4th fingers **without** moving anything except the 4th finger. See how long it takes before fatigue occurs. Relax a little and then repeat the trill, including the forearm in the motion. Less fatigue and greater stamina should result. **Before making this experiment, read 1.4 again.**

Of course there will be movement in the forearm, when the fingers used lie next to one another (for example 3 and 4). Care must be taken that the finger remaining on the string (in this case 3) remains supple, so as not to hinder any associated movement. (See fig. 5.2(ii) a and b.) Notice that the part of the forearm which moves most is **the wrist**. The elbow stays relatively still. The wrist must be kept curved all the time.

Also, during position shifts, the 'new' playing finger should receive full arm weight immediately. For example, when playing scales on one string, the motion will become smoother if the forearm is moved in association with the different fingers playing, rather than jerking from one position to another.

5.3 EXERCISES

Fig. 5.3(i) is a simple exercise in one position, aimed at developing left forearm mobility. Accents within the slurs are not executed with the bow, but by striking the left hand fingers down. When returning to a lower note, the higher finger should leave the string with a sideways 'plucking off' motion. This increases clarity and is an important fundamental principle of this technique. Keep the left shoulder relaxed (not raised or thrust forward) and the elbow in an oblique suspended attitude, so that the whole arm virtually 'hangs' between the fingertips and the shoulder. Do this exercise several times without a break.

Fig. 5.3(ii) is a daily warming-up exercise. It should be done on the G string in four positions. As in the previous exercise, the left hand is to make an accent at every change to a higher note. The highest position is extended to four fingers (to avoid two position shifts), but the left forearm must be used in the same way here, too. The shifts must be carried out quickly - the downward ones in the manner described in the last part of section 6.5. As a technical exercise, the fingers should be lifted as high as possible during the whole exercise.

Fig. 5.3(i)

Fig. 5.3(i) consists of three staves of music in bass clef, 4/4 time. Each staff contains four measures of music. The first measure of each staff has a slur over four notes, with an accent (>) over the second note. The notes in the four measures are: G4, A4, B4, C5; G4, A4, B4, C5; G4, A4, B4, C5; G4, A4, B4, C5. The notes are connected by slurs, and there are double bar lines at the end of each measure.

Fig. 5.3(ii)

Fig. 5.3(ii) consists of two staves of music in bass clef, 12/8 time. The first staff has four measures of music, with notes G4, A4, B4, C5. The notes are connected by slurs, and there are double bar lines at the end of each measure. The second staff has four measures of music, with notes G4, A4, B4, C5. The notes are connected by slurs, and there are double bar lines at the end of each measure. The notes are connected by slurs, and there are double bar lines at the end of each measure. The notes are connected by slurs, and there are double bar lines at the end of each measure.

Fig. 5.3(i) & (ii): Daily exercises for developing a rocking motion in the wrist.

This exercise should also be transposed to the other strings - using the same positions and fingerings.

Practise this exercise at first using the left hand alone (no bow or pizzicato). The fingers must hammer the string. Then practise legato, détaché and the variations given in fig. 3(iii). (The whole exercise can be played using the four-finger system in three positions.)

5.4 THUMB POSITION

Higher notes (e.g. g' on the G string, upwards) are usually played in thumb positions, with the thumb used both as a support and as a 'playing' finger. There is however no strict dividing line; and many players use thumb positions earlier, when this helps a bowing pattern.

Fig. 5.4(i) a, b and c show the left hand in correct playing position, with the first finger on a' (a), the second finger on b' (b), and the third finger on c' (c). Notice how the whole hand is slightly displaced towards the 'playing' finger, for better transfer of weight. The thumb presses the string down on the fingerboard with the widest part of the last joint, which is bent slightly inwards. In the pictures it is on g' .

Fig. 5.4(i)d illustrates a common mistake, here the end joint of the thumb is bent outwards, straining the thumb muscles. The angle of the thumb also prevents the hand from moving freely, and impedes vibrato. The end joint of the thumb should lie as nearly as possible parallel to the 'playing' finger.

The thumb should keep the string down the whole time, regardless of which finger is in use. It is very powerful and in holding the string down, reduces the work load of the fingers. The thumb also acts as an anchor-point and guide in locating positions.

Many players release the thumb to achieve vibrato, with consequent loss of intonation and stamina. This is unnecessary and with practice the hand's most important digit can be used effectively. The thumb is normally placed a whole tone or a semitone behind the first finger, and remember that the string must be kept down during position changes.

Notice that the fingers are not parallel with the strings, but are almost at the same angle as they were in lower positions. Notice too that the last joint of the 'playing' finger is never bent backwards (broken), but 'rolls' forwards and backwards when playing with vibrato.

When playing more than one note (see fig. 5.4(ii)), 1 and 2 need not remain on the string while 3 plays c'' . In fact it is better for the vibrato if they are raised. But the first finger must be in place (on a') **before** the 3rd finger is raised, (partly to avoid a glissando from c'' to a'). It does not matter if the last joint of the first finger 'breaks' as it is placed on the string, as long as the joint is straightened out again at the moment when a' is to be played.

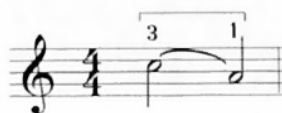


Fig. 5.4(ii)



Fig. 5.4(i) a – d: Thumb position. a, b: Correct.



c



d

Fig. 5.4(i) c: Correct. d: Incorrect bend in thumb.

The reason why I do not play with the fingertips 'broken' backwards, is that it takes longer to depress the string and I find it more tiring - articulation is usually weaker. It must be admitted, however, that many excellent players in the interests of personal tone production break all the rules!

In thumb positions it is all too easy to produce squeaks (involuntary artificial harmonics) when moving from a high note to a lower one. This can be avoided by plucking the string aside with the finger which is to be lifted.

5.5 THE WEIGHT OF THE ARM IN THUMB POSITION

If muscle groups are to work independently in thumb, as in in lower positions, the back and shoulders must allow the arm to have its own weight. Be very careful not to lift or thrust the shoulder forward.

As in 5.2, arm weight has to be placed over the particular finger in use, especially when the playing finger is a long way from the thumb. Rapid changes between the second and third fingers require weight to be more generally directed towards them, in order to improve third finger articulation. The higher the position, the less apparent this weight displacement will be.

When shifting upwards at a slow tempo, the thumb may 'crawl' upwards before the last note in the lower position has ended. (The thumb remains depressed the whole time.) This often helps intonation.

5.6 EXERCISES IN THUMB POSITION

Play exercise fig. 5.6(i), fingering two bars per position. Play slowly and quietly first, for intonation; legato - one bow to a bar. Take care that the bow is always very near the bridge. If it is too tiring to play all the positions to begin with, play only part way up the octave and back. Do not strain the hand, making a rest or a long sustained note where you wish. The fingers must always be hammered down distinctly. Coming down, take care to place all the fingers in the new position as quickly as possible, so they are ready over the notes they will play.

Later, increase the speed to develop facility in the hand. Vary the bowing by using legato over the whole bar, legato over three notes, détaché and spiccato.

Fig. 5.6(ii) is an excellent intonation exercise (originally from Gary Karr) which can be practised in the following ways:

- Each bar is played four times with the same fingering.
- Fingering is chosen freely each time.
- Vibrato is used on every note (cantabile) and care taken that the vibrato is always even.

In addition to being a scale exercise, it is useful for thirds, fourths, fifths, and sixths.

Fig. 5.6(i): Daily thumb position exercise.

The musical score is written in G major (one sharp) and 12/8 time. It consists of ten staves of music. The first staff begins with a treble clef, a key signature of one sharp (F#), and a 12/8 time signature. The first two measures of the first staff are marked with fingerings: the first measure has a '+' above the first note, and the second measure has '+' above the first note, with '1 2 3' above the notes. The first two measures are followed by a repeat sign. The third measure of the first staff is marked *sim.* and is followed by a repeat sign. The second staff contains three measures of eighth-note patterns, each followed by a repeat sign. The third staff contains three measures of eighth-note patterns with fingerings: the first measure has '3 2 1 +' above the notes, the second measure has '+' above the first note and '2' above the second, and the third measure has '3 2 1 +' above the notes. The fourth staff contains four measures of eighth-note patterns. The fifth staff contains four measures of eighth-note patterns. The sixth staff contains three measures of eighth-note patterns with fingerings: the first measure has '+' above the first note and '1 2 3' above the notes, the second measure has '+' above the first note and '1 2 3' above the notes, and the third measure is followed by a repeat sign. The seventh staff contains three measures of eighth-note patterns, each followed by a repeat sign. The eighth staff contains three measures of eighth-note patterns, each followed by a repeat sign. The ninth staff contains three measures of eighth-note patterns, each followed by a repeat sign. The tenth staff contains three measures of eighth-note patterns, each followed by a repeat sign, and ends with a double bar line and a final chord consisting of a whole note G4 and a whole note chord of G2, B2, D3.

Fig. 5.6(ii): Thumb position intonation exercise. Each bar to be played four times.

Andante cantabile

The musical score consists of seven staves of music in G major. The first staff is in 3/4 time and contains eight measures of eighth-note patterns. The second staff is in 4/4 time and contains eight measures. The third, fourth, fifth, sixth, and seventh staves are also in 4/4 time and contain eight measures each. The patterns are as follows:

- Staff 1: G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4
- Staff 2: G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4
- Staff 3: G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4
- Staff 4: G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4
- Staff 5: G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4
- Staff 6: G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4
- Staff 7: G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4 | G4-A4-B4

5.7 EXTENDED THUMB POSITION

Usually, the interval between + and 3 does not exceed a perfect fourth. Besides, it is more comfortable to play a passage such as that shown in fig. 5.7(i) with 3 on b' instead of 2, and the third and second fingers together are considerably more powerful than 2 alone. A compact hand gives better weight transfer from the arm.

Sometimes, however, there is much to be gained by deliberately moving the thumb backwards 'out of position', while the fingers remain in their usual places. Consider fig. 5.7(ii). The thumb moves while the first finger remains 'anchored' on a'. A position change does not occur until the third bar, when the thumb remains 'anchored' instead. This is the simplest fingering for such passages.

In fig. 5.7(iii), as this 'anchor' moves, take care to keep a good hand position. Practise both examples, watching your left hand as you do so, to make sure that the thumb moves independently. (The fact that it will lie at the 'wrong' angle when extended so far, is of no importance here.)

Similarly in fig. 5.7(iv) (Vanhals concerto, 2nd movt.) the thumb can remain 'anchored' while the fingers move up for a few notes in a higher position. In the highest positions, this technique ensures good intonation, even when playing quite large intervals. Flexibility and independence of the thumb are therefore an important aid to perfect intonation. Always be conscious, however, whether the thumb is in a normal position, or not.

Fig. 5.7(i)



Fig. 5.7(ii)

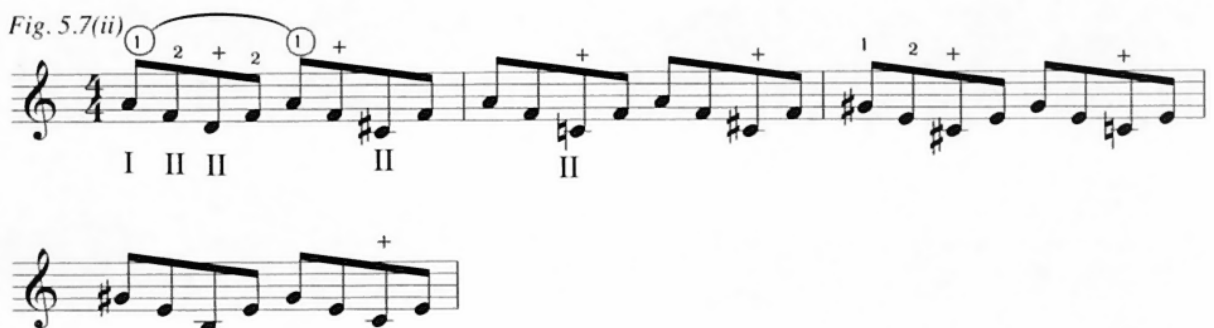


Fig. 5.7(iii)



Fig. 5.7(iv)



Fig. 5.7(i-iv): Examples of extended thumb position

5.8 TRILLS

Trills are easier to execute with the help of arm weight; i.e., by oscillating the forearm. For fast trills the wrist is kept straighter than 'normal' (which gives the best vibrato, see section 7.1). It is very often rigidity of the finger or fingers which remain on the string during the trill which gives most trouble. Develop flexibility in the stable fingers, whilst taking care not to move out of position.

In this way, trills can be played with any combination of fingers (even with 2 and 3 when using a four-finger system described in chapter 8). The position of the thumb is also critical. When trilling between 3 and 4 it helps to move the thumb forward a little nearer the pivot point.

In rapid trills, keep finger movement the minimum necessary to achieve clarity. It will help to loosen the hand if the very first note of the trill is struck with the finger raised rather high. In thumb positions, it is not always necessary to strike down the string completely.

Slow rhythmic trills, with the trilling finger raised high and full participation by the forearm, are excellent exercises to cure stiffness and get the circulation going. Fig. 5.8 shows a simple exercise of this kind. Note the accents, which should be executed by the left hand (and forearm) only, while the right arm maintains a smooth stroke. Use different fingers, and play all the way through the thumb positions. After this exercise, stretch the fingers well by pressing them against the edge of a table, or against the body of the instrument.

Even if it is beyond the scope of this book to discuss purely musical questions, the reader is reminded that trills (and shakes) in baroque music should begin with the upper of the two notes in most cases.



Fig. 5.8: Trill exercise.

5.9 DAILY EXERCISES FOR THE LEFT HAND

Fig. 5.9(i) is an exercise for the left hand to develop finger independence and strength. Play it through two or three times in succession. Lift the fingers as high as possible. Afterwards, relax by stretching and massaging the fingers and wrist thoroughly. The fingers can be stretched sideways, by pushing the neck of the instrument between each pair. This routine is vital as the arm moves little during the exercise and without relaxation stiffness can easily occur.



Fig. 5.9(i): Exercise for developing finger independence and strength.

Fig. 5.9(ii) is a scale exercise in all major keys. Three- and four-finger systems have been mixed and the thumb used for some lower notes to save shifts. (Note that there are always **at least two notes in each position.**) (See 6.6 for shifts into thumb position.)

Practise the exercise détaché and martelé or spiccato. The accents help right arm coordination; the fingering used in the last two keys can also be applied to higher keys.

Remember at all times to bang the LH fingers down. Take care that articulation is clear and do not use too much bow on the E string. Occasionally practice this exercise legato. As daily gymnastic exercises those in 5.3, 5.6 and 5.8 are also recommended.



The musical score is divided into two systems of five staves each. The first system (staves 1-5) is in bass clef. The second system (staves 6-10) is in treble clef. The key signature starts with one sharp (F#), changes to one flat (Bb) at the beginning of the second system, and returns to one sharp (F#) at the end of the second system. The exercise consists of a continuous sequence of eighth-note patterns. Fingerings are indicated by numbers 1, 2, 3, and 4 above or below notes. Some staves include Roman numerals I and II with arrows indicating hand changes. The piece concludes with 'etc.' and a final hand change from II to I.

Fig. 5.9(ii): Daily scale exercise with fingering examples