

7 VIBRATO

7.1 GENERAL TECHNIQUE

Vibrato is one of the most important means of expression available to string players and is perhaps, more than anything else, a matter of individual taste. It is therefore very important to master **different kinds of vibrato**; narrow/wide, quick/slow, etc., each of which can give a distinct character to a note, according to the musical context.

The most important thing is to attain a harmonious oscillatory movement of the **whole left arm**. This movement is governed by the forearm (with the wrist slightly bent, as shown in fig. 7.1(i)) and will be transmitted to the upper arm, as long as the arm is relaxed. In contrast to a violinist, the bass player should execute the vibrato with a quite unflexed (but not tense) wrist joint. The reason for this is that the bass player generally wants to produce a slower vibrato than the violinist. There seems to be a definite correlation between the pitch of a note and its natural vibrato speed.

Consider the photographs 7.1(i) and 7.1(ii) a and b. Imagine an axis from the tip of the playing finger and down through the elbow joint. The wrist is bent slightly outwards from this axis, and can move in (part of) a circular arc around it. The further out the wrist is bent, the greater the radius of this circular arc. The forearm and hand will then act as a pendulum with which the speed of oscillation can be regulated by altering the length, or in this case the radius, from the imaginary axis to the circular arc described by the wrist's movement.

In contrast, fingers must be supple and elastic. In particular, the last joint of each finger must be as mobile as possible, so that the fingertip can 'roll' on a greater length of string. The fingers which are not 'playing' can be raised from the string so as not to impede this movement, but must be replaced well before they come into action again. The vibrating (playing) finger must not slide on the string. (This has latterly become fairly usual for



Fig. 7.1(i): The vibrato is governed by the forearm around the axis shown by the dotted line.

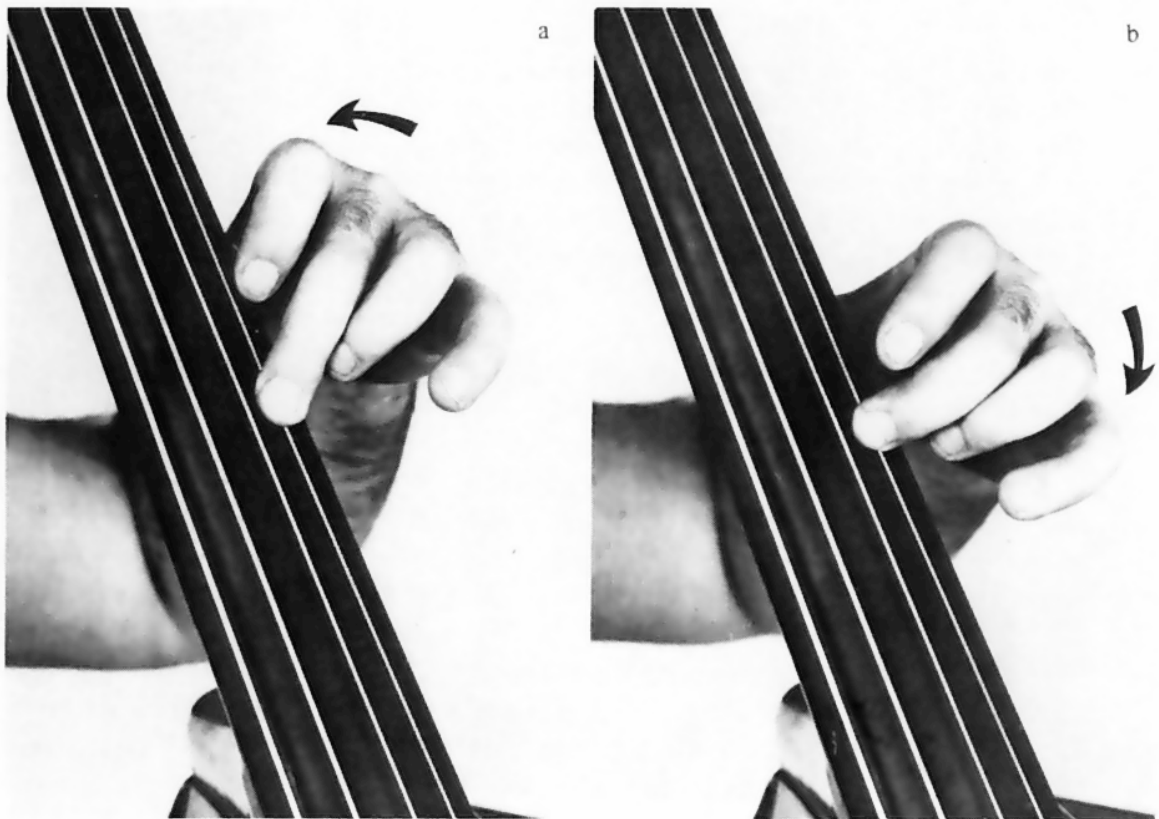


Fig. 7.1(ii) a & b: The playing finger should be rolled during the vibrato motion.

jazz-pizzicato. In this case, however, it is absolutely justifiable, giving an effect which reminds one of a synthesizer's vibrato or 'shake', but in a classical context it would seem exaggerated, instead of forming an organic element in the sound.)

A common fault among bass players is that the 'roll' is often so pronounced that the focus of the pitch becomes un-centered, giving rise to approximate intonation that all too easily satisfies an un-critical ear. This causes great problems in ensemble playing.

Relaxation is the key to a convincing (not excessively quick) vibrato, which can take some time to develop in those who have tense upper arms (active biceps and triceps). Scientifically, vibrato is activated by muscles connected to the shoulderblade (*M. Teres major* and *minor*), and their impulses given when the relaxed forearm is 'falling down'. Each impulse gives the forearm a bounce upwards; no other lifting of the arm takes place. In practice, although in a successful vibrato this can be seen to happen, it is doubtful whether knowledge of these mechanics will be of any great assistance in attaining fluency.

Since in most cases only **one** impulse is given to the forearm for each complete oscillation, the angle of the wrist is to a great extent responsible for regulating the speed or frequency of the vibrato. The arm should hang by the fingertips on the fingerboard, with the thumb completely relaxed, so as not to hinder the movement. A relaxed vibrato helps promote blood circulation, and thus increases powers of endurance. Practise keeping a good vibrato going during shifts: **this is often overlooked.**

Once familiarity with the fingerboard has been developed, care must be taken to avoid keeping the hand in block positions, which not only impedes shifting but also prevents good vibrato. Rather, the weight of the hand should be focused over the playing finger wherever possible: it is seldom desirable to have all the fingers depressed.

7.2 VIBRATO IN THE LOWER POSITIONS

Vibrato is easiest in the intermediate positions (Simandl 3rd and 4th) and should be practised in these to begin with. In the lower positions it will often take much energy to produce sufficient vibrato, as the notes are more widely spaced on the string. One way of dealing with this is to allow the tips of one or more fingers to touch the string very loosely, in addition to the 'playing' finger. Look at the photographs, fig. 7.2a and b, where the first finger depresses the string while the second and third fingers are in close contact with the first. Pictures a and b show the two extreme positions in this type of vibrato. The rolling movement of the arm and hand can now be kept small, but the vibrato will still be quite noticeable; partly because the pitch will vary slightly more than if only one finger had been used. More important are the continuous modifications of overtones resulting from the gentle touch of finger pads on the string.

This technique must be used in a well-disciplined manner guided by musical taste, if one is to avoid ending up with a parody of a bad operatic singer. In successively higher positions the auxiliary action of the extra fingertips should gradually be reduced. In the pictures fig. 7.2a and b the tips of both second and third fingers are in use, in addition to the playing (first) finger. One usually uses only one additional fingertip. (With the fourth finger one cannot of course employ this technique.)

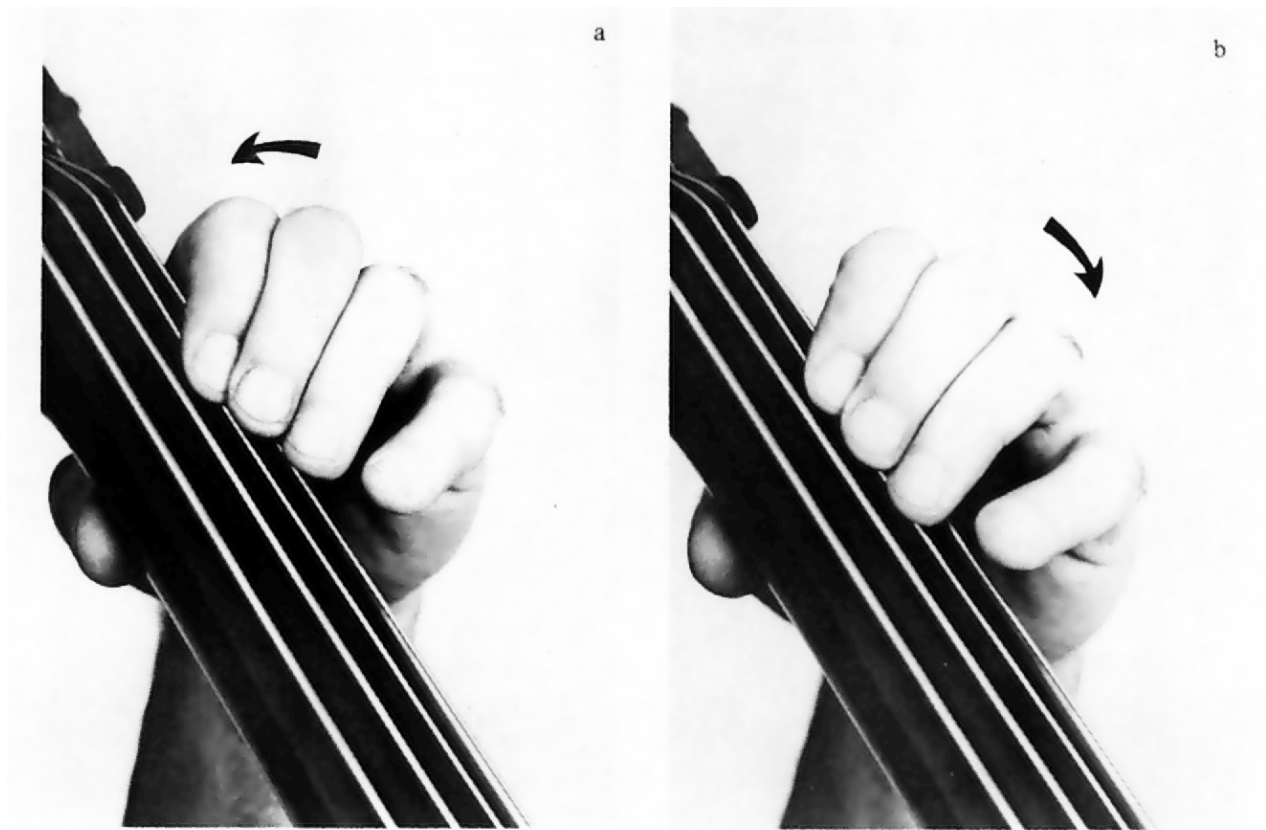


Fig. 7.2: In lower positions adjacent fingers may help the vibrato.

7.3 VIBRATO WITH THE FOURTH FINGER

The fourth finger (in normal positions) is less curved than the other fingers and can therefore not roll on its last joint in the same way as they can. The rolling action tends to involve the whole fourth finger: the string is pressed down with the pad rather than the tip, as in the case with the other fingers.

7.4 VIBRATO IN THUMB POSITIONS

In thumb positions it is important that the hand should be correctly placed (see 5.4), so that the oscillatory movement is as nearly as possible parallel to the string, and not across it. Remember that the thumb must still be kept down. Other (non-playing) fingers may be raised from the string, just as in lower positions.

Try to develop maximum mobility in the end joint of each finger, so that the fingertips roll on the string. In thumb positions the vibrato does not involve the upper arm to any great extent, but the whole forearm is actively engaged, since the wrist is kept rather stiff. Keep the upper arm as low as possible over the body of the instrument.

7.5 VIBRATO WITH THE THUMB

It is also possible to play vibrato with the thumb, but this becomes progressively more difficult with lower positions. The movement of the hand will be rather large and thumb vibrato should be avoided for longer notes. The vibrato is most easily performed with the thumb's knuckle on the side of the string, touching the fingerboard.

7.6 VIBRATO ON OPEN STRINGS

This can best be achieved by placing the first finger loosely on the nut, with the second and third fingers beside the first. Execute an ordinary vibrato with the arm, so that the tips of the second and third fingers lightly touch the open string on the forward movement. The pitch will scarcely be altered at all, but the overtone pattern will be modified by the harmonic contact of the fingertips. This method is most suitable for the lower strings,

Lifeless sound on an open string can often be avoided by moving the bow's point of contact nearer the bridge and further from it, alternately, so that the overtone pattern is constantly changing. (See section 10.9 and 10.10.)