

4 TYPES OF BOWING

4.1 DÉTACHÉ

Détaché (French: “separated”, often referred to as ‘on the string’) is perhaps the most common of all strokes. The bow is moved backwards and forwards with a constant pressure which is not even released during the bow change of direction. The “départ” must each time be distinct, and the notes should sound separated but without noticeable gaps.



Fig. 4.1: *Détaché*.

Bow pressure is maintained even when changing from the G string to the A string, (see 2.6), as in fig. 4.1 bar 2. In rapid détaché (for example, repeated semiquavers at M.M. = 120) the movement of the elbow and arm must be like that described in section 4.12 (tremolo). Watch the stick and take care that it does not bounce.

It is vital to pay attention to bow distribution. In the fourth bar of fig. 4.1 take care that the quavers are not played with greater bow speed than the minim in bar 3, as this would result in an uneven sound. This is a **very** common mistake. When correctly played, the bow will travel from the point to the frog in the course of bar four. (The opposite will apply when playing the repeat). The same should occur in the final bar. **Make a habit of using all parts of the bow – not just those that are the most convenient!**

The wrist must not yield too much, as this prevents efficient transfer of arm weight. But the right hand fingers must participate actively at “départ” and the change of bow.

4.2 STACCATO

The term staccato (Italian: “loose, freestanding, joltingly”) has several meanings. Violinists often mean “repeated short notes with the same direction of bow travel”, while wind players use staccato as a designation for short notes, either alone or in groups. I prefer the latter, and refer to the first as “tied staccato” (see 4.3).

Short notes can be played on stringed instruments either ‘on the string’ or ‘off the string’ (with a bouncing bow). If the term “leggiero” (Italian: “light”) occurs, the bow can bounce gently, as required.



Fig. 4.2: Staccato "on the string".

Staccato "on the string" demands that the string should be abruptly stopped by the bow after each note. This is most easily accomplished by using the forearm in company with the fingers and wrist (see the last paragraphs of 2.2).

Bow pressure should be maintained in the rests between the notes. When playing a series of rapid semiquavers in this way, the bow should be kept well below the end of the fingerboard, and the passage played with short up and down bows alternately. Small gaps between the notes will then occur as the bow silently draws the strings aside prior to releasing it.

Be careful that the attack of each note in exercise fig. 4.2 is clean. The fact that the bow is abruptly stopped on the string does not mean that the arm should be tensed! Instead, at the beginning of each note, give a short impulse and then allow the arm to stop by itself.

'Staccato on the string', as described in this section, is a fundamental bowing type which serves as a foundation for both martelé and spiccato. It is important that this type of bowing be mastered at every tempo and on each one of the strings.

4.3 TIED STACCATO AND PORTATO

Tied staccato implies a series of short notes played with the bow travelling in the same direction, notated as in fig. 4.3a, with both slurs and dots. This can be executed both up-bow and down-bow.

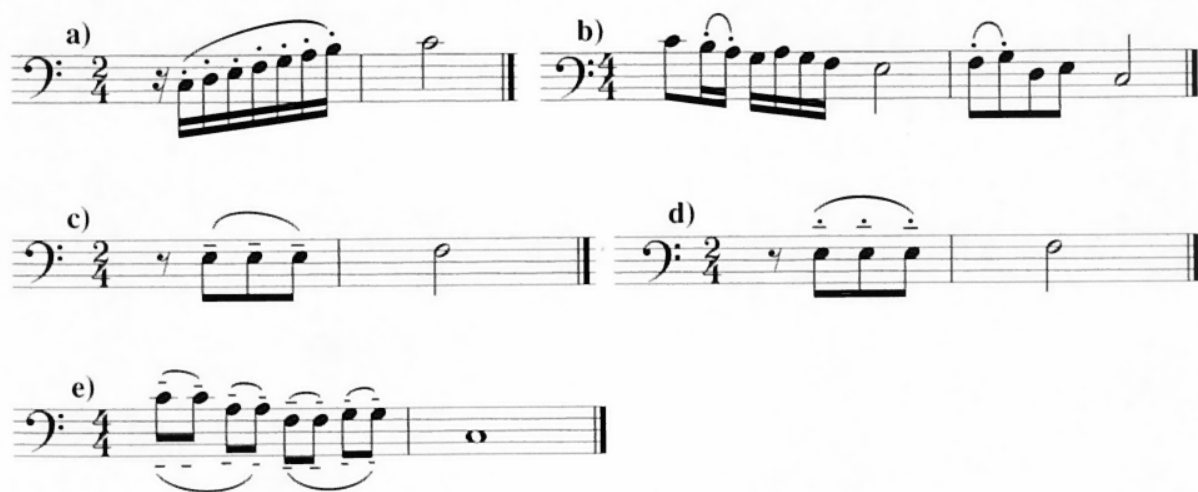


Fig. 4.3 a-e: Tied staccato and portato.

Bow pressure must be maintained as for staccato 'on the string' (see 4.2). The impulses are essentially given by the forearm (which is governed by muscles situated in the upper arm), while the fingers and wrist act rather like springs. If these impulses are given by the hand, the bow will begin to bounce very easily when playing near the frog. At a fast tempo, the upper arm should be slightly tense, but the shoulder should not be raised. It may, however be a good idea to raise the elbow a little, so that the inconsistent movements of the forearm do not get transmitted up the arm, thereby hindering the constant even transfer of weight from above.

Very little bow is used for each individual note, so that the mutual energy pattern of the string and the arm can become as nearly as possible oscillatory (like a natural vibration). String crossings are left mainly to the fingers and wrist.

In a series of 'tied staccato' notes, very special attention should be paid to the last one, as it has a tendency to assume a different character from the others – it will tend to be longer. Tied staccato should be practised on scales in all keys. One can use the exercise shown in fig. 5.9(ii). See also fig. 3(iii) variation i.

Figure 4.3b shows examples of tied notes marked in the same way as tied staccato. In this case, however, the dots do not imply short notes: the notation only indicates a bowing that will avoid the passage getting upside down. Notes marked with slurs and dots here, should sound as similar as possible to those that follow, whether these are played *détaché*, *martelé*, or whatever. In other words, one should not be aware that some notes are linked together for convenience.

Figures 4.3 c,d, and e show examples of "portato" (Italian: "carried"). "Portato" indicates that several notes are to be played in the same bow, partially separated, but usually without any particular attack on each note. It can be notated in various ways. Notes are usually played "tenuto" (Italian: "sustained"), i.e. long (somewhat shorter in fig. 4.3d). This type of bowing might be thought of as 'tied tenuto', in contrast to 'tied staccato'. As a rule the notes are articulated by releasing the pressure of the bow on the string, which thus vibrates (and sounds) the whole time.

Bowing shown in fig. 4.3e can be very useful for orchestral or slow moving basso continuo parts. Quavers tied together in groups of two or four, giving a more musical rhythmic pulse and line to the phrasing. Whether notes are given definite articulation (as in *détaché*), or are linked more smoothly will be dictated by the nature of the part that is being accompanied. Where clear articulation is desirable (for example, to achieve a percussive effect when playing with a harpsichord), the bow is briefly stopped on the string between each note. The articulation must then be carried out by means of the whole arm, including the fingers and wrist. (It is often a good idea to use this last technique on the E string instead of *détaché*, because the string is the whole time being drawn to one side, and therefore reacts more quickly at the "départ".)

4.4 RICOCHET

Ricochet bowing (French: "indirectly, rebounding") is used to achieve clear articulation of a group of notes in rapid succession. See fig. 4.4(i). The wedges within the slurs indicate that the bow has to bounce, and in this case it is best to use an up bow.

Only one impulse to the arm, hand and fingers is given for each group of triplets and the bow begins in the air. See fig. 4.4(ii). The rapidity of the bounces will be dictated by the tempo of the music and depends both on how firmly the bow is held and which point of the bow is used. The looser the hold, the slower the bounce. Ricochet is usually played in the middle of the bow; to achieve more rapidity one plays nearer the point, while a slower tempo calls for playing nearer the frog.

The elbow joint should be kept rather taut, so that the bow gets support right from the upper body. If a longer note is to be played after a series of ricochet notes, avoid prolonged bouncing by loosening the bow grip. Tilting of the bow may also aid here.

A good quality bow is essential for success in this type of bowing.

Figure 4.4(iii) shows ricochet bowing in Rossini's "William Tell" overture. There are several feasible bowings, of which two are shown here.

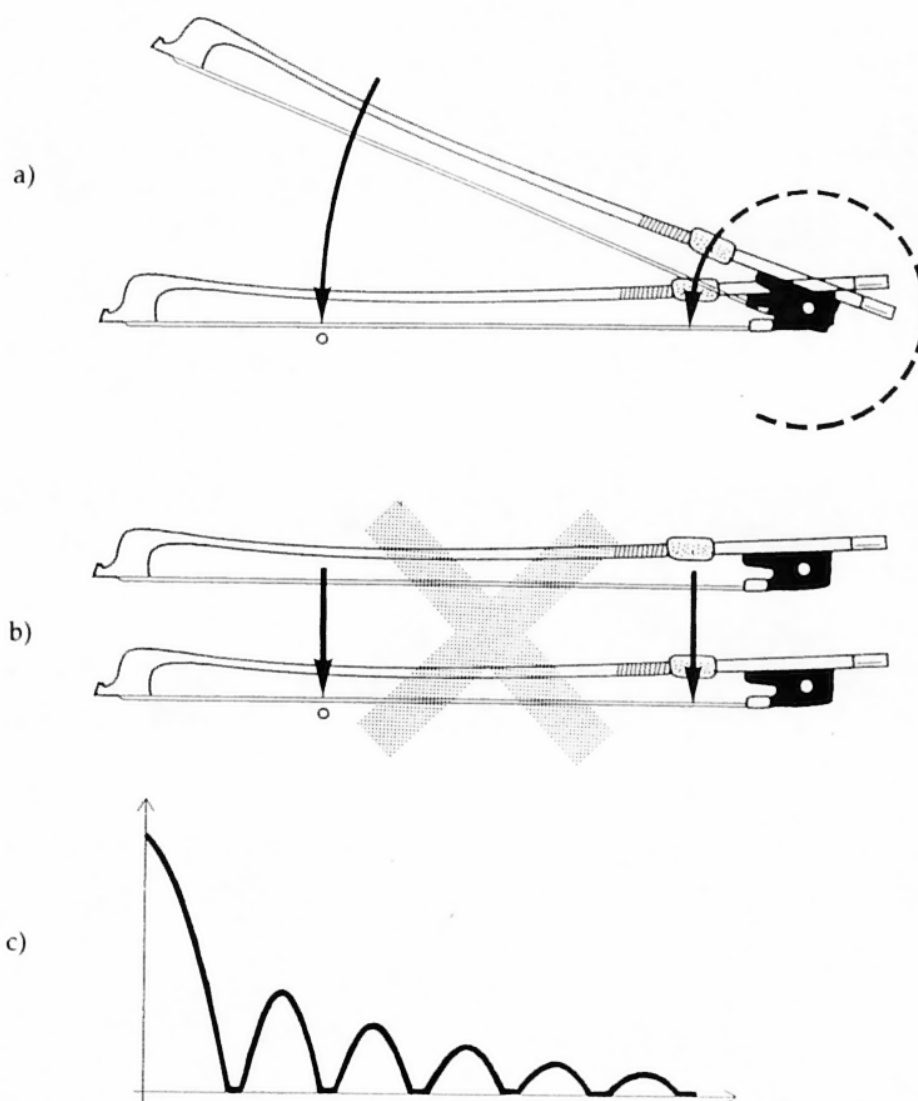


Fig. 4.4(ii): Ricochet, a: the correct way of throwing the bow onto the string, b: incorrect, c: in a series of (tied) ricochet notes, the bow bounces with smaller and smaller movements.

Another example of the ricochet is shown in fig. 4.4(iv)a and b. Here there will be an accent on the first note of each group. The hand should be flexed during the down bow (see fig. 3(iv)), so that the bow can quickly be returned to the starting point in **one** up-bow. Mobility of the elbow joint will assist this.

In fig. 4.4(v), on the other hand, the elbow joint must be kept rather stiff, and the string crossing should be executed with the whole arm. The fingers must be bent slightly, the wrist giving a small impulse to the first two notes of each up-bow, so that the bow bounces from string to string. There is never time to lift the bow far off the lowest string. Angling the bow as described in 10.10d (up-bow) and c (down bow) helps this exercise.

Fig. 4.4(i)



Fig. 4.4(iii)



Fig. 4.4(iv)



Fig. 4.4(v)

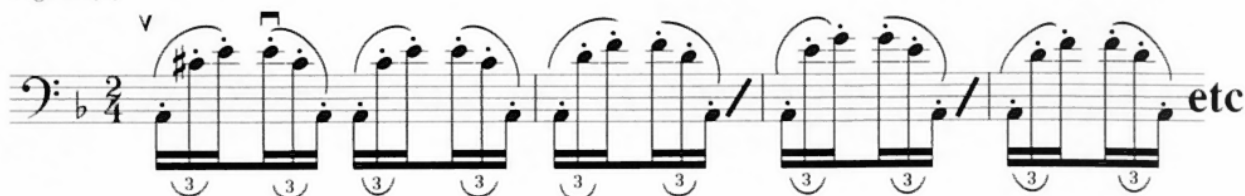


Fig. 4.4(i) – (v): Examples of ricochet.

4.5 TIED DOTTED RHYTHMS

Rapid dotted notes – for example, dotted quavers followed by semiquavers, as shown in fig. 4.5a – are usually tied ('tucked in') in pairs (in the same bow), as indicated by the slurs and dots. Just as in fig. 4.3b above, one cannot automatically conclude that the dotted quavers should be short, even if there are dots within the slurs: here also, the musical context must decide the character. The notes in fig. 4.5a should be played either as in 4.5b or as in 4.5c, depending on the piece. The mechanics of each will be slightly different:-

In 4.5b, all the notes are played short, with rather taut arm and hand. The bow is stopped on the string and full weight maintained during the rests. Be careful not to raise the shoulder!

In 4.5c, the dotted note is sustained as long as possible and a technique similar to that in 3(i)g is used:

The arm guides the down-bow (dotted quaver), and the semiquaver is started by the fingers and wrist (avoiding use of the arm). During the up-bow (dotted quaver) the fingers and wrist keep their position, while the arm again guides the bow and the semiquaver is started (without use of the arm) by the fingers and wrist, which thereby are straightened out to their normal position. All notes should be clearly articulated.

Left hand shifts in dotted passages should preferably be carried out immediately after the dotted note. This is the moment when one has the best opportunity to change position inaudibly.

The figure shows three musical staves in bass clef, 4/4 time, illustrating different ways to play tied dotted quaver pairs. Each staff starts with a dotted quaver followed by a semiquaver, with a slur and a dot above the pair. Staff (a) shows a sequence of these pairs, with the second pair having a sharp sign above it. Staff (b) shows the first pair with a 'v' above it, followed by several pairs with 'v' above them, and the staff ends with 'etc'. Staff (c) shows the first pair with a 'v' above it, followed by several pairs with 'v' above them, and the staff ends with 'etc'.

Fig. 4.5: Tied, dotted quavers.

4.6 SPICCATO

Spiccato (Italian: “clearly separated, cut off”) requires the bow to bounce off the strings with each stroke, thereby separating the notes very distinctly. A good quality stick is essential in order for the hair to get a good grip on the string every time. With a poor bow, more is demanded from the hand and arm to achieve any spiccato at all.

In the final paragraphs of 10.3, I state that “sufficient pressure must be established before the bow starts to move lengthwise”. This is equally valid for spiccato, when the movement pattern of the bow hair becomes critical: in ‘genuine’ spiccato, the hair leaves the string between the notes. If the notes are to be clean, the bow hair must move as nearly as possible straight down towards the string until sufficient pressure is established to draw the string sideways.

Consider fig. 4.6(i)a-c. The arrows describe the movements of the bow and the dotted line indicates where the hair meets – and leaves – the string. (We can observe such patterns of movement if a chalk mark is made at the middle of the bow, or a little bit of tape is stuck to the same point.) Study the photograph, fig. 4.6(ii). In fig 4.6(i)a and b, we can see that the bow moves straight in towards the string at the beginning of each new stroke. In c, the hair strikes the string obliquely, both up and down-bow. When using one of the two first patterns the bow gets a good grip on the string before drawing it aside. The difference is only for **how long** the bow is in contact with the string. With pattern c, there is a good chance of the articulation being indistinct – and for the individual notes to vary in quality (as the movement of the string after the previous note will not necessarily harmonize with the movement of the bow).

The point on the bow where spiccato works best is dependent on tempo and dynamics. Very quick spiccato is best played in the middle of the bow. At slower speeds, a point nearer the frog will give better results – particularly when playing forte or fortissimo. The point of impact on the string also affects articulation and bow action.

How high should the bow bounce? There is no particular point in making the bow bounce high above the string, except as a technical exercise. It is best that the hair leaves the string as little as possible, as long as the stick of the bow maintains a constant bouncing movement. The higher the bow bounces, the more percussive and less sonorous the sound. (Many players unwittingly take advantage of this and play ‘high’ spiccato in all quick passages, so as to camouflage weaknesses in intonation.) Unnecessary bouncing of the bow should be particularly avoided during string crossings.

If one wishes to develop a good spiccato, in which every note has good tone and clarity, it is essential to begin by mastering ‘staccato on the string’ at the point on the bow where the spiccato will later be played (see 2.2 and 4.2). With full mastery of the staccato technique, only a slight movement of the wrist is required to start the stick in its oscillating movement. This impulse is given on the down bow, the hand being thrown obliquely down to the right. (Be careful that the up-bows and down-bows sound identical.)

Figure 4.6(iii) is a simple spiccato exercise. The first bar begins with a down-bow; in this case the bow can start in the air, off the string. But in the next two bars the bow should

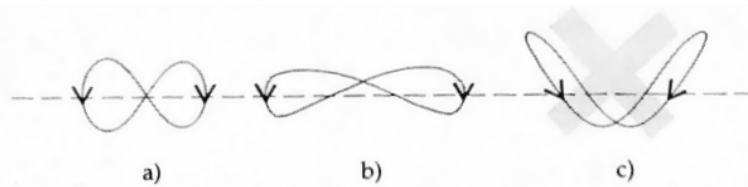


Fig. 4.6(i): Pattern of a bouncing bow stick. a & b: Correct; each stroke begins with a vertical attack on the string with the bow stick. c: The bow hair meets the string at a wrong angle.

Author's Comment:

It has later been found that during a good spiccato the bow hits the string even earlier, i.e., while the bow is still moving in the "old" direction. (Imagine the string positioned a little higher in Fig. 4.6(i).)

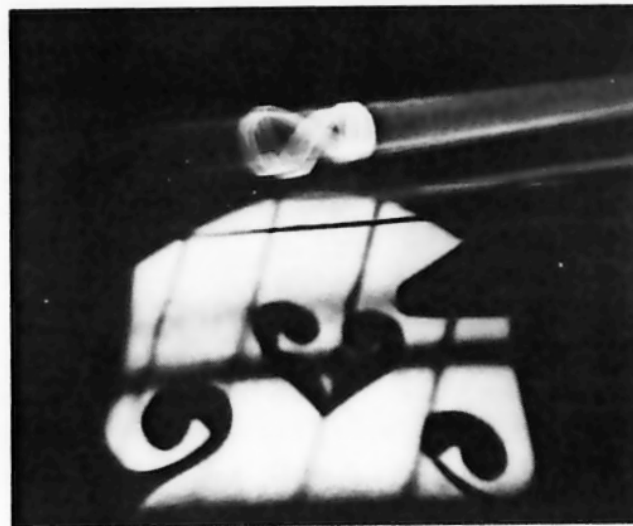


Fig. 4.6(ii): Photo example of correct spiccato.



Fig. 4.6(iii)



Fig. 4.6(iv)

begin on the string, as the first note is an up-bow. This is specially important for passages such as the one in the last bar, which begins with a semiquaver rest. In ensemble playing, such passages will tend to be late if the up-bow starts from off the string.

These remarks apply equally to fig. 4.6(iv), where spiccato is combined with legato: the bow must be kept on the string under steady weight until the beginning of the third semiquaver (up-bow). However, the bow may quite well be lifted before the beginning of the seventh note (down-bow). During the first two tied semiquavers (down-bow) the hand should be flexed somewhat as shown in fig. 3(iv).

With spiccato which has to be played softly or slowly, it often helps to hold the bow obliquely, so that only part of the hair strikes the string. This gives a smoother articulation, and the notes will be longer because the bow does not leave the string so quickly. Extremely slow spiccato should be played with a taut arm.

The execution of 'tied spiccato' or 'flying spiccato' lies somewhere between tied staccato and ricochet, but in this case there is movement in the wrist joint at each note – but not necessarily any accent at the beginning of each stroke. It is easiest to perform on the up-bow.

4.7 MARTELÉ

Martelé (French: "hammered" – cf. Italian: "martellato") has points of similarity with spiccato, but is used mostly in tempi which are too slow for spiccato to produce the required amount of tone. As the word implies, the articulation should be very distinct. The bow must 'strike' each note down into the string, and then partially release the pressure so that each note ends in diminuendo.

Martelé is easiest to play in the lower part of the bow, between the middle and the frog, but should also be practised towards the point, and at different tempi.

Like spiccato, martelé may be started both from the air, and from the string. In the upper part of the bow one should always start from the string.

In fast (martelé) passages where the dynamic is forte or fortissimo, (as in the Scherzo from Beethoven's Fifth Symphony), the elbow should be kept rather taut. (See section 4.12.) This is most important when playing on the lower strings. The wrist, however, must flex as in spiccato so that the stick gets the correct 'bounce'. Each note should be clearly attacked.

4.8 LEGATO

Legato (Italian: "tied together") means that several successive notes are played with the least possible interruption. **This applies both when they are played in one bow, and when played with separate bows.** Bow changes must be as inaudible as humanly possible, so that the chain of notes gives the impression of a continuously flowing stream. (See 2.3.)

In the case of large intervals, the speed of the bow must be adjusted to suit the pitch of each note, as will be described in 10.5.

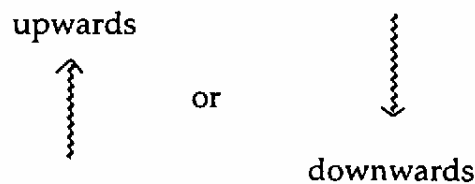
Open strings in legato passages present a special problem, because harmonics tend to be produced involuntarily and the open string fails to speak cleanly. To avoid this, one can pluck the string lightly (but inaudibly) with the left hand, to help establish the intended pattern of vibration. (This technique can of course also be used with other types of bowing.)

With reference to string changes in legato, see 2.5, 2.6 and 2.7.

When playing legato, cautious use of portato (see 4.3) can, in some cases, give the impression of a freer sounding instrument. Portato should generally be avoided when changing strings.

4.9 ARPEGGIO

Arpeggio (Italian: "like a harp") means that several notes on different strings are to be played in a continuous legato, they can quite will be allowed to overlap one another. Arpeggio is indicated by a sign sometimes with an arrowhead at one end of the wavy line, which indicates the direction in which the arpeggio is to be played;



It is important that the arm (elbow) should move evenly, without articulating each individual note, and that the left hand fingers have the strings held down firmly, before the arpeggio starts. As will be described in section 10.5 and 10.6, the speed of the bow must be increased as the pitch rises.

When playing a series of quick arpeggios (as in fig. 4.4(v)), the bow can be angled as shown in figs. 10.10d (up-bow) and c (down-bow) to attain greater clarity and better balance between strings.

Arpeggio can also be executed pizzicato; in most cases from the lowest note upwards – using the right thumb.

4.10 BROKEN CHORDS

In solo literature there are sometimes chords using three or four strings. These must be played as broken chords, as it is impossible to play all the notes simultaneously.

A four-note chord should generally be played by starting with the bow on the **two lowest** strings – followed by the **two highest**. This gives more of the impression of a complete resonant chord than would be the case if one played arpeggiando.

Similarly, a three-note chord should start with the two lowest strings – followed by the two highest, i.e. with the middle string sounding the whole time.

Double stops with big intervals (for example, tenths) should also be played broken, starting with the lower string alone – followed by both strings together. This is because the instrument will gain freedom of tone if the two notes are set going with a slight lapse of time between them.

In cases when it is not the top note of the chord which leads into the continuation of the melodic line (as happens many times in Bach's cello suites), this must be taken into account when executing the broken chord, so that the appropriate note is left sounding at the end of the chord.

In addition, see section 10.7.

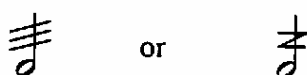
4.11 COL LEGNO

Col Legno (Italian: "with the wood") implies that the string is to be struck with the stick of the bow ("col legno battuto"). The sound is mainly percussive, and it is often difficult to hear the actual pitch of the note. Greater clarity of pitch can be obtained if the bow strikes the string nearer the bridge. Occasionally the use of a light piece of wood (such as a chopstick) produces a more apparent pitch than can be obtained with the wood of the bow. Alternatively one can hold the bow so that both the stick and the hair hit the string, this will produce a 'mix' of arco and col legno tone. In this case it will be an advantage to make the impact more oblique – rather like a very high spiccato.

Very occasionally sustained notes are to be played by drawing only the stick across the string ("col legno trattato").

4.12 TREMOLO

Tremolo (Italian: "trembling") calls for a large number of rapid short bows, with the bow firmly on the string. When the tremolo is played piano, the point should be used. Notation for tremolo is three or more transverse lines across the stem of the note; or a Z:



Tremolo on the three upper strings should be played with a mobile elbow joint, so that the elbow moves forwards when the bow moves backwards, and vice versa (see photograph, fig. 4.12(i)). If it is difficult to achieve the effect, try holding the bow with the frog pointing somewhat downwards, as shown in the photograph fig. 4.12(ii). The elbow will then naturally make the desired movement, and one can gradually straighten up the angle of the bow, while keeping an eye on the action of the elbow. The weight of the arm should be evenly applied, all the time. This detailed description of the movement is given because the same supple movement is very often used for quick bows, back and forth, either in détaché, spiccato or other types of bowing.



Fig. 4.12(i): Movements in the arm joints during tremolo (down-bow).



Fig. 4.12(ii): Angling the bow to facilitate correct action in the arm joints.

On the other hand, tremolo on the E string (or any even lower string) must be played with a taut arm (i.e. larger mass) with support from the back muscles, in order to obtain clear articulation and clarity of pitch on each bow. In this case it is difficult to achieve a very quick tremolo, because bow speed is comparatively slow. The natural elasticity of the string prevents it from responding immediately and time elapses while the bow draws the string to the side prior to its release. A looser tremolo often suffices when the fundamental pitch of every single bow is less important. The result will be rapid and will give a satisfactory density of sound. In this case it is often an advantage to start with a slightly longer note, clearly articulated.

A 'rigid' arm is also used sometimes in powerful, rapid détaché on the upper strings, but this is a strenuous way of playing and the technique should be confined to short passages.

The wrist should be kept taut when playing all forms of tremolo, to prevent the bow bouncing.

4.13 PONTICELLO

Ponticello – properly “sul ponticello” (Italian: “on the little bridge”) – means bowing close to the bridge, with speed and pressure adjusted to prevent the hair from gripping the strings properly. The glassy sound produced consists of upper partials (harmonics) – the fundamental pitch will be barely audible. Ponticello is most commonly tremolo, in the upper part of the bow, near the point.

4.14 FLAUTANDO

Flautando (Italian: “like a flute”) is generally bowed over the end of the fingerboard (sul tasto); with very little pressure, and a swift stroke. The sound should be as sweet and gentle as possible. The flautando effect is best achieved by using comparatively hard resin. Be careful to keep the same quality of tone when changing bows: as the bow will usually be travelling rather fast, changes should be made by supple movements of the elbow, wrist and fingers.

4.15 PIZZICATO

Pizzicato (from “pizzicare”, Italian: “pluck”) means that the string is set in motion by a finger, instead of the bow (arco). There are very many different techniques – using both right and left hand fingers – a few are given here.

In the same way that the point of contact of the bow on the string influences tone, so tone quality in pizzicato is dependent on the point at which the string is plucked.

Pizzicato played at about the middle of the string will give the softest sound. A special 'hollow' effect may be obtained in one plucks precisely in the middle; this works best

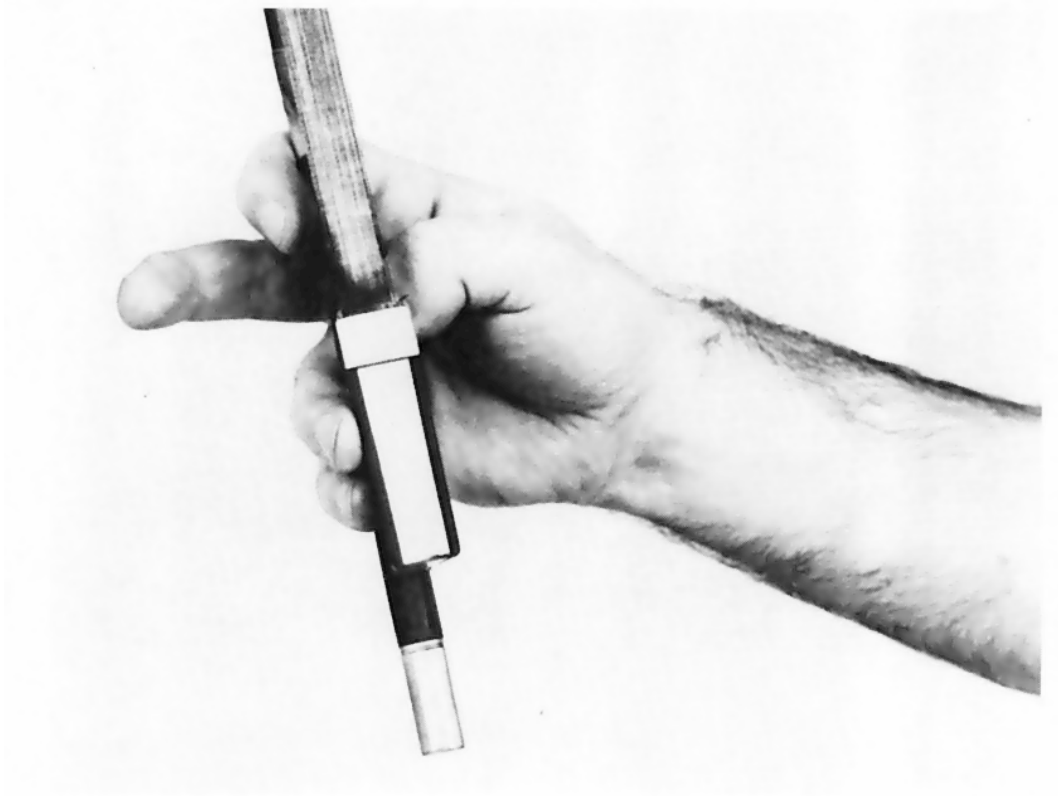
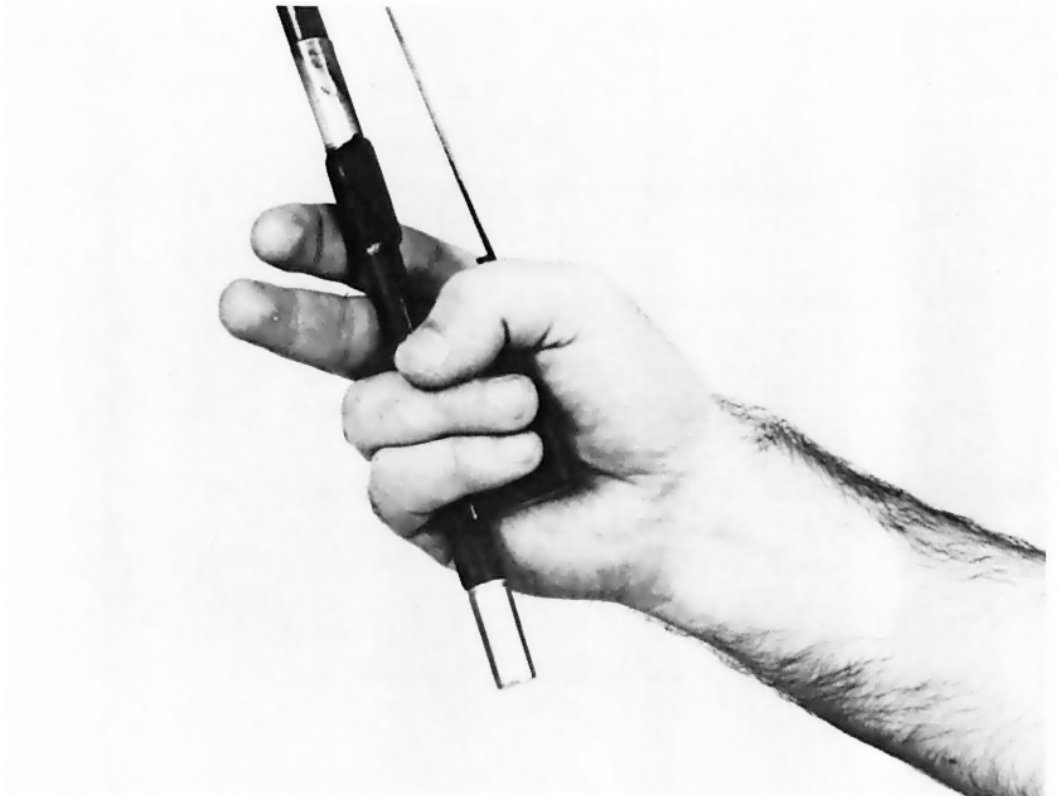


Fig. 4.15(i) a & b: Holding the bow during pizzicato.

with a plectrum and can be useful in some contemporary pieces. A pizzicato at either end of the string gives the hardest sound. In addition, the **angle** of plucking has a great influence on tone quality.

- Provided the string does not slap on the fingerboard the gentlest sound will be obtained by drawing the string straight out from the fingerboard.
- A distinct singing tone with clear articulation (the usual jazz pizzicato) will be produced by drawing the string obliquely in towards the fingerboard before the release.
- A distinct singing tone with less attack, but harder in quality, will be produced by using the thumb instead of a finger, as described above – obliquely in towards the fingerboard, but to the left.

Vibrato gives the effect of a more sustained note (see also 10.9).

It is important to consider the role of the **entire** arm and not merely the fingers, both physiologically and in relation to tone production when playing pizzicato (see 1.4).

Bartok pizzicato (notation thus: ϕ) indicates that the string is to be drawn straight out from the fingerboard strongly, so that it snaps back, making a percussive sound when released.

The photographs, fig. 4.15(i)a and b, show two ways of holding the bow when playing pizzicato. The way shown in 4.15(i)b is the most suitable when rapid changes from arco to pizzicato are required.

In the case of rapid pizzicato passages, it is an advantage to use two or more fingers alternately. Fig. 4.15(ii) shows an exercise using three fingers of the right hand. The figures under the notes indicate which finger is to be used for each note (1 = RH index finger, 2 = middle finger and 3 = ringfinger).

Artificial harmonics, played pizzicato, can be used for a larger number of notes than is the case when playing arco, because the **right hand thumb** can be used to stop the string lightly while the fingers play the pizzicato. This makes it possible to play artificial octave harmonics chromatically, as shown in fig. 4.15(iii).



Fig. 4.15(ii): Exercise for developing a three-finger pizzicato technique.

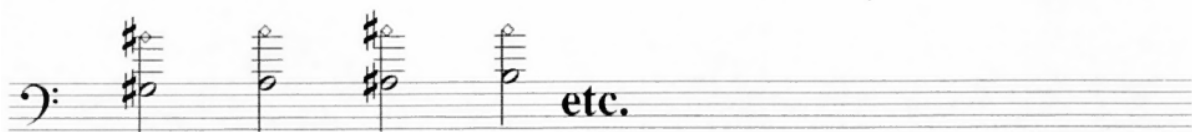


Fig. 4.15(iii): Example of artificial harmonics playable using pizzicato.