

# Improving listening (2)

The tone of a string instrument is made up of many different sounds at the same time, and may include sympathetic vibrations, harmonics and overtones, acoustic beats, vibrato 'pulses', extraneous sounds of too much or too little bow pressure or speed, surface noise – as well as the sound of shifts, the 'ping' as fingers drop or lift, bow changes, and so on. All of these sounds are clearly audible to the player even if many may not be apparent to the audience.

- One simple way to improve listening is to play through a phrase or short passage concentrating entirely on only one aspect of sound at a time.

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## Surface noise

The sound of the hair's friction with the strings is distinct from the principal sound. The closer to the bridge you play and the higher the left hand position, the louder the background surface noise.

- Listen to the evenness of the surface noise. The more regular it is, i.e. the more even the volume and texture of the surface noise during one stroke, the better will be the principal sound.

## Background resonance

Background resonance is the ringing on of the tone that you can hear after playing a note and lifting the bow from the string. This is most audible on open strings. You can also hear it *while* the bow is playing, the non-stop background resonance being clearly distinct from the principal sound.

- Listen to the ring carrying on after the end of short notes, during sustained notes, or in between lifted strokes like spiccato; listen during changes of bow or string, and so on.

Very short bow stroke

Listen to the ring

Listen to the ring during the note

Listen to the ring

Listen to the ring during the note

Listen to the ring during the bow change

Listen to the ring

Ring

Listen to the ring

Listen to the ring

Example 1

Detailed description: This musical notation example consists of two staves. The first staff shows a sequence of notes with arrows pointing to specific moments: 'Very short bow stroke' (at the start), 'Listen to the ring' (at the end of a note), 'Listen to the ring during the note' (during a sustained note), 'Listen to the ring' (between notes), 'Listen to the ring during the note' (during another sustained note), 'Listen to the ring during the bow change' (at the transition between notes), and 'Listen to the ring' (at the end of a final note). The second staff shows a series of notes with a 'Ring' label and arrows pointing to the decay of each note, followed by 'Listen to the ring' labels and arrows pointing to the space between notes.

## Joins between strokes

- Listen to each join from down-bow to up, or up-bow to down. If there is a space between the strokes, listen to the quality of the very end of one stroke, the silence in between, and the quality of the very beginning of the next stroke.
- If *legato*, try to create the illusion of a continuous tone through the bow change, resulting in a seamless, unbroken connection.

## Sound of shifting

- Listen to the sound of the finger sliding or 'ghosting' lightly along the string. (Ghosting = use the least finger pressure on the string, the least bow pressure, and the least amount of bow. This is not the same as an expressive slide or portamento.) If you listen to the ghost it is impossible to 'over-shoot' and shift too far.

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Listen to the finger 'ghosting' along the string

Example 2

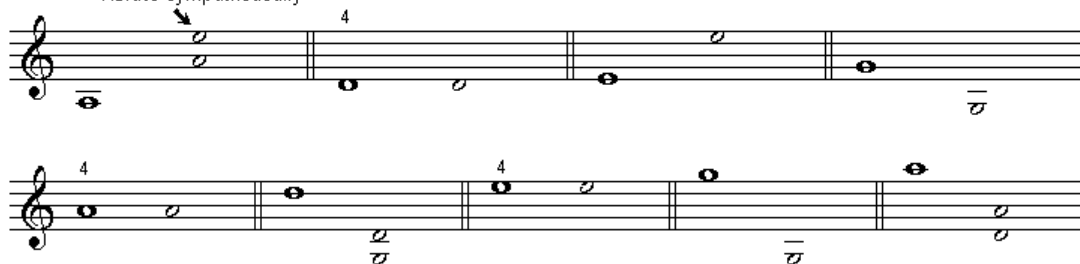
Detailed description: This musical notation example shows a single staff with a treble clef and a key signature of one flat. It features four measures of music. Each measure contains a sequence of notes (1, 4, 1, 4) with slurs over them. Arrows point to the transitions between notes, labeled '1' and '4', with the instruction 'Listen to the finger 'ghosting' along the string'.

### Sympathetic vibrations

Open strings vibrate sympathetically when a stopped G, D, A or E is played, bringing a ‘ringing’ quality into the sound.

- Work through a phrase or passage tuning all the stopped open-string notes by listening to (and watching) the sympathetic vibrations of the open string.

Listen to (and watch)  
the open strings  
vibrate sympathetically



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Example

While tuning these notes to the open strings listen to the *quality* of the note, not only the pitch: without vibrato, roll the finger very slightly higher and lower until the finger is in the very centre of the note. See how the open string then vibrates the widest, and the tone has an open, ‘soft-centred’ quality without any hardness or tightness in the sound:

### Acoustic beats

- 1 Play A on the D string in unison with the open A. Sustain both notes deeply in the string, one centimetre from the bridge, drawing the bow very evenly and equally balanced on both strings.
- 2 Move the stopped A very slightly out of tune with the open A. Listen to the steady, rhythmic throb that this produces. The bigger the difference between the two notes, the faster the beat. When the two notes are exactly the same pitch, there is no beat.
- 3 Gradually move the finger lower on the D string until it is at F. Even with the notes this wide apart, you can hear them as a very fast beat.

Listen to the beat getting faster and slower as you move the pegs to tune the violin in fifths. An in-tune octave has no beat: listen to the purity of the tone when the two notes are exactly right. Even as wide an interval as a major third, once you are used to hearing beats in the sound, sounds like a very fast beat as much as it sounds like two notes played at the same time.

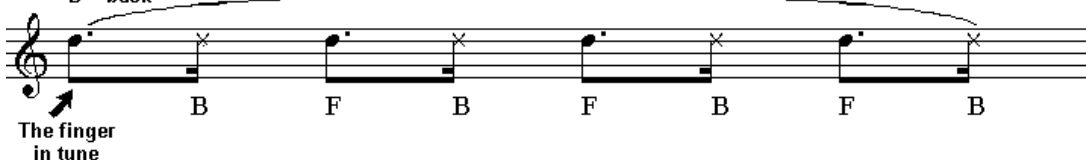
Instead of one player producing acoustic beats with an out-of-tune unison, two players can achieve the same effect playing one note each. This is one of the reasons why it is so important for an ensemble like a string quartet to play with great purity of intonation: otherwise a multitude of acoustic beats are created which produce a disturbing ‘jangling’ effect to the listener.

### Vibrato ‘pulse’

The vibrato pulse or ‘throb’ is caused by two factors:

- 1 When the finger rolls back, flattening the note, it releases the string slightly (written as x-notes below); when it rolls forward to the in-tune note it leans slightly more heavily into the string. The pulse comes from the in-tune note sounding much clearer than the flattened pitch because of the finger pressure.
  - 2 The back and forward movement is not even, but moves in a dotted rhythm. The pulse comes from the in-tune note being longer than the flattened pitch.
- Practise a note, phrase or passage with a slowed-down vibrato that has a certain number of cycles on each note. For example, four pulses on a crotchet could be represented like this:

F = forward  
B = back



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Example