AITCHISON MNATZAGANIAN

CELLO MAKERS RESTORERS & DEALERS

NEWS FOR CELLISTS JANUARY 2018

Battle of the Buzz

The body and set-up of a cello are extraordinarily dynamic when the cello is played. The front and back pulse in and out like a beating heart, f hole wings flutter like manic butterflies and the strings, bridge, fingerboard and tailpiece all dance and vibrate with amazing energy. It's hardly surprising that occasionally some aspect of the cello's structure or set-up might become loose or unglued and the resulting impact between small moving parts of wood, metal, or even encrusted rosin and dirt cause a 'buzz'—an irritating, non-musical frequency that is distracting at best and hard to listen to at worst. Our article on pages 2–3 aims to give an insight into some of the many causes of buzzes.

String reviews

We have been sent some samples of the latest Warchal metal-wound synthetic gut cello strings and we are looking for cellists to test them for us. You would be welcome to keep the sample strings in return for your kindness in giving us some detailed feedback, which we will publish on our website.

We wish you all a very happy 2018!

Go Cello! 13–15 April 2018

We're excited to announce 'Go Cello!', a national festival for young cellists (aged up to 18) that is being run by the wonderful London Cello Society and hosted by Trinity Laban Conservatoire and the National Maritime Museum. Go Cello! offers a rich programme of workshops for junior and senior students, taught by an inspiring faculty of teachers from conservatoires and music schools across the UK. The festival culminates in a concert at the National Maritime Museum. We warmly recommend this exciting musical opportunity for young players. The deadline for applications is 1 March so do pass on the word if you think your students would like to take part (Grades 1–8 /Diploma). On Saturday 14 April there is also a one-day pedagogy course 'Teaching the Young Cellist' for 30 cello teachers and student trainees at which Robin will be giving a short talk on sound adjustment. Enclosed is a copy of the Go Cello! leaflet to pass on to any interested student or teacher. **https://www.londoncellos.org/gocello/**

Cello and bow trials at Go Cello!

We're delighted to be Luthiers in Residence at Go Cello! on 14 and 15 April. All cellists - visitors and participants alike - are most welcome to book an appointment to try a selection of cellos by Robin (we aim to have his Stradivari, Montagnana and Guadagnini copies available.) Our bow stock can also be booked for trial. In addition, we are offering cello surgery sessions for festival participants, during which they can consult Robin about their set-up.

We will be resident in rooms G67 and G73 throughout the festival, very close to the café and reception area and clearly signposted from reception. All our visitors are warmly welcome to the festival site (you'll just need to sign in as a visitor at reception in King Charles Court). Saturday appointments are available from 9–10.30am; 11.15am –12.15pm; 2–3.30pm; 4.15–6.30pm. Sunday appointments are available from 9am to 12 noon. To book a visitor's appointment on 14 or 15 April, email info@aitchisoncellos.com or telephone us on 01353 668559.

When testing for a buzz, it is worth working systematically through a check list, ideally with the help of another person who can hold down or suppress the movement of a possible buzz-creating area—such as a tuner on the tailpiece or a section of purfling—while the player activates the cello by plucking or bowing.

Some types of buzz react more clearly to pizzicato and some to arco. Some appear on open strings but not on stopped notes. Some are activated by 'wolfy' notes as they have a more hectic vibration pattern than smoother sounding notes. Some buzzes (especially sound box buzzes) can become more apparent when you fit new strings, or have your bow rehaired, since this causes the cello to vibrate more efficiently. Some buzzes only occur on the top strings; others only in the bass. Some appear during dry weather and disappear during humid weather. Make a note of this for future reference as it will help if you have to consult a luthier.

SET-UP BUZZES: For the purposes of this article we will consider that all parts of the cello except the sound box (the front, back and ribs) should be thought of as the 'set-up'. In fact, most buzzes are set-up buzzes, which tend to be whispery in quality, and which are more audible to the player than the audience. Set-up buzzes can originate in any part of the cello's set-up: the strings, fingerboard, pegs, peg box, tailpiece, tail cord or end pin. Here are the most common causes of the set-up buzz, starting at the top of the cello.

Scroll and peg box: You can normally detect a scroll buzz by putting your head close to the scroll. Loose decorative mountings on the head of the pegs can start to buzz, as can loose peg-hole bushings (the spiral or end grain wooden in-fill used to narrow an over-wide peg hole in the side of the peg box and which can come unglued over time). Dirt in the peg box can vibrate and cause a buzz. If there are old worm tracks in a cello scroll, buzzing can emanate from this area due to loose dust inside the worm tunnels.

Each of the non-playing lengths of string (known as 'after lengths') in the peg box between the nut and the peg will have its own vibrations and if these after lengths pass too close to a peg or another string, they will buzz. In rare instances, the free end of the string sticking out beyond the hole in the peg can buzz.

Nut: The string grooves in the nut should be very accurately fitted to each string, particularly where the string arrives at the nut at the top of the fingerboard and where it departs towards the peg. If a string groove is too wide, or drops away from the string, a buzz may occur. This type of nut string groove buzz only occurs on open strings and not on stopped notes. Very rarely, the nut itself is so poorly fitted that it can buzz against the neck.

Fingerboard: If a fingerboard is unglued at its bottom end, it will make a clattering buzz when the cello is played. (It won't buzz if unglued at the top end.) Hold down the fingerboard at its free end to see if this stops the buzz. Stopped strings can buzz against the fingerboard if the fingerboard is worn, either with vertical grooves under each string, or horizontal semitone ripples where each finger touches the string. If the string heights are too low, buzzes can also occur.

Bridge: If the bridge feet are poorly fitted to the cello front, or the bridge has moved away from its original position, it is very likely that a buzz will occur when an unanchored foot vibrates against the cello front. This buzz can be quite difficult to find. The only routine test is to move the bridge feet around and adjust the standing posture of the bridge in an attempt to change the fit of the bridge feet. You could try squeezing the legs of the bridge together in case the bridge legs have splayed. The secret is to change the system, not suppress the bridge (see 'False Diagnoses' below). If any bridge string grooves are not fitted to the string, this can cause a buzz. Loose bridge vellums can also buzz.

Strings: An elderly string can buzz if the windings have been pushed out of place by friction against the bridge or nut. Faulty strings can appear perfect externally, but have a problem in the core structure that can cause an unpleasant metallic resonance: this can be identified if the problem disappears when the string is replaced. In extreme cases string buzzes can be loud, metallic and projecting.

Tailpiece: It's possible for the fine tuners on a tailpiece to buzz if they are loose or malfunctioning. You can hold the tuners one at a time to eliminate this possible cause. Loose frets on old fashioned wooden tailpieces can buzz if they work loose, as can any decorative or separate piece of wood in the tailpiece.

Tail cord: The loose ends of gut, metal, nylon and particularly kevlar tail cords can all buzz against the underside of the tailpiece if they are not finished off tidily and cut short enough after tying. You can seat the tail cord in blue tac to prevent this kind of buzz.

Endpin: The more different moving parts there are in an endpin fitting, the more potential there is for a buzz. One classic problem is screw-on tips that become loose and buzz; another common issue occurs with the free, vibrating length of endpin inside the cello. Modern endpin fittings have cork or plastic sleeves at the back end of the bore to dampen this vibration but if these are worn or missing, an impressive rattle can result.

SOUND BOX BUZZES: Sound box buzzes tend to sound more metallic and have a much more projecting quality than 'whispery' set-up buzzes. 95% of sound box buzzes are caused by loose purfling and open seams, so be sure not to progress with other, possibly expensive investigations until you're confident that you've eliminated these common causes. It's particularly important not to assume that the buzz is caused by a crack, however awful it may look, and to get drawn into having cello opened and extensive work done. Usually, it's something simple and not complicated that is causing the buzz.

Open purfling: This buzz has a surprisingly metallic and projecting sound as the two faces of a narrow but deep fissure between the purfling and the cello plate 'clap' together at a very high frequency with the motion of the sound box. The most common spot for open purfling is in the bass C bout, near the upper half of the f hole and up to the front bass corner. This is the area of greatest amplitude of vibration on the cello due to the small distance between the bass bar and the edge of the cello, which allows a huge amount of flexibility and motion. This buzz is particularly noticeable when playing in the lower register of the cello as the entire bass side of the cello front is driven up and down by the bass bar. All this activity tends to disrupt the gluing of the purfling in this area, thus causing a buzz. You can most easily stimulate a bass C bout loose purfling buzz by plucking the lower strings.

If you hear a buzz when you pluck the upper strings, it could be caused by loose purfling in the treble C bout and by any of the back purflings too. Another common spot for loose purfling is the front lower bout near the bottom of the bass bar, where there is a lot of motion.

Open seams: Open seams tend to cause less of a buzz than loose purfling and if they do make a noise it tends to be a clattery sound. The main tonal impact of open seams is a considerable loss of power and projection. There are quite a few techniques for testing seams. The one to avoid is hitting the cello hard with the knuckles so that by the time the process is finished, the knuckles hurt, and the cello is open in all sorts of places it wasn't before!

THE LAST 5% OF BUZZES… Much rarer, and often difficult to diagnose, are buzzes caused by open cracks, loose studs, glued dirt and debris inside the cello. When we are lucky, open cracks and loose studs can be identified and glued through the f holes but sometimes there is no alternative to removing the front and having a good tidy up. This is expensive and time consuming. The consolation is that the overall sound of the cello can often be improved at the same time.

Rib cracks: Many cellos have rib cracks that are open. Sometimes they are reinforced but consistently come open and some are shrinkage cracks that cannot be closed and are reinforced by the corner blocks. Fortunately, rib cracks are very rarely acoustically significant and almost never cause a buzz.

FALSE DIAGNOSES: When looking for a buzz, it's tempting to pay too much attention to the part of the cello where we hear the buzz the loudest. Sometimes this is a helpful approach, but often not. The reason that we sometimes hear a buzz from a location that has nothing to do with the source is that at high frequencies, the front and back of the cello configure themselves into myriads of miniature loudspeakers and the pattern of these loudspeakers changes continually, according to the fundamental pitch and overtones being activated. The buzz also has its own frequency and it is natural that we should hear the buzz sound most clearly from one of these mini loudspeakers, not from the place of origin.

Another challenge we face is getting a false diagnosis when we suppress individual parts of the cello. It's easy to assume that if we suppress the cello in one place and the buzz goes away, therefore this must be where the buzz originates. The problem is that if we suppress the 'loudspeaker' on the cello that is projecting the buzz, the buzz will indeed go away but we won't have identified its actual source. Secondly, there are many parts of the cello—like the bridge and the sound post—that are fundamental to the function of the overall system, so if we suppress any central element we may reduce the cello's amplitude of vibration to the point where the buzz is not activated, even though it originates from a place very distant from the part we are suppressing.

SELECTED CELLOS & BOWS

CARLO ANTONIO TESTORE c.1730

L.O.B: 29½″ (755mm) String length: 27¼″ (691mm)

£320,000

A very fine example of Testore's work in excellent condition. This versatile cello has a natural capacity for soloistic projection as well as the tonal flexibility to blend beautifully in a chamber or orchestral context. Beare certificate.

FLORENTINE CELLO c.1750

L.O.B: 30″ (760mm) String length: 27¼″ (693mm)

£80,000

A handsome Italian cello labelled Lorenzo Carcassi with a colourful, deep, fine tone and powerful upper register projection. Previously owned by an orchestral principal and soloist and in good restored condition. J&A Beare letter.

WILLIAM FORSTER CELLO c.1770

L.O.B: 29″ (738mm) String length: 26⅜″ (670mm)

£75,000

An elegant cello by William Forster fully restored in our workshop, with an expansive, rewarding tone and very good projection. Labelled internally. Beare receipt.

ROBIN AITCHISON GUADAGNINI COPY

L.O.B: 28 ⅛" (715mm) String length: 26⅜" (668mm)

Price: £tbc

Made in 2003 as a close copy of a Milan period Guadagnini cello circa 1755 with a fine, Italianate tone.

JOHN YOUNG CELLO c.1730

L.O.B: 29″ (735mm) String length: 26¾″ (681mm)

£25,000

A handsome unpurfled early English cello in very good condition, with a clear, powerful tone and quick response.

FLEMISH CELLO c.1800

L.O.B: 28″ (720mm) String length: 26½″ (674mm)

£23,000

A pleasing cello of a comfortable size in good repaired condition, with a warm and expressive tone.

LOCKEY HILL SCHOOL CELLO c.1780

L.O.B: 29″ (735mm) String length: 26½″ (675mm)

£20,000

A beautiful English cello with lush red-brown varnish and a very rich, colourful tone with considerable projection.

JOSEPH HILL CELLO c.1780

L.O.B: 29¾″ (755mm) String length: 26⅝″ (678mm)

£20,000

A characteristic example of this maker's work with a rich and rewarding tone. Repairs to the front.

JACOB HAYNES BAROQUE CELLO 1745

L.O.B: 29½″ (747mm) String length: 27″ (686mm)

£20,000

A very attractive and fine sounding English cello with beautiful red-brown varnish.

CHAROTTE-MILLOT CELLO c.1830

L.O.B: 28¾″ (731mm) String length: 27″ (684mm)

£15,000

A handsome, comfortably sized cello by Joseph Charotte-Millot in very good condition, with a fine tone.

A. BACHMANN BAROQUE CELLO 1756

L.O.B: 29⅛″ (740mm) String length: 26¾″ (680mm)

£14,000

A small baroque cello with a characterful tone.

GERONIMO BARNABETTI CELLO c.1880

L.O.B: 30¼″ (770mm) String length: 27″ (683mm)

£10,000

A cello in excellent condition with an open, resonant tone.

Selected Cello Bows

Arthur Vigneron	78.0	S	£tbc
James Dodd	86.4	S	£17,500
Samuel Allen (Hill)	78.8	S	£8,000
W E Hill & Sons (Yeoman)	78.9	S	£7,500
W E Hill & Sons	80.0	S	£6,000
Matt Wehling	81.8	G	£5,860
Roger Zabinski	80.5	S	£5,160
John Dodd (shortened)	82.6	S	£5,000
Michael J Taylor	76.0	G	£4,900
Steve Salchow	81.0	S	£4,690
W E Hill & Sons	83.2	S	£4,500
Malcolm Taylor	83.6	G	£4,500
Roy Quade	87.0	S	£4,300
Victor Bernard	80.9	G	£4,300
Bernd Etzler	81.9	S	£4,000
Hill	72.5	S	£4,000
John Aniano	80.5	S	£3,910
Bernd Etzler	81.9	S	£3,500
Robert Pierce	83.8	S	£3,300
Christian Wanka	80.8	S	£3,160
Bernd Etzler	81.0	S	£3,025
Rudolf Neudörfer	82.6	S	£3,000
John Clutterbuck	84.8	S	£3,000
Klaus Grünke	80.4	S	£2,750
David Tempest	80.2	S	£1,950
W E Hill & Sons (spliced)	79.7	S	£1,500
Alfons Riedl	81	S	£1,500
Jackson Fornaciari	81.8	S	£1,100
Siqueira	80.0	N	£880

For a complete list of cellos and bows visit www.aitchisoncellos.com