



LATE...BUT WORTH THE WAIT

Made when Antonio Stradivari was 90 years old, the 1734 'Willemotte' bears all his hallmarks including a deep, complex tone quality. **Sam Zygmuntowicz** examines the violin and compares its design features with other gems of the great master

One of New York's chamber music highlights took place on the night of 4 March 2020: Yo-Yo Ma, Emanuel Ax and Leonidas Kavakos performed together in Carnegie Hall: a magnificent combination of artists, repertoire, and the gilded setting of the Stern Auditorium. This was my first opportunity to hear Kavakos perform on the 'Willemotte' Stradivari of 1734, which he has now been playing for the past three years. That night I discovered anew that in Kavakos's hands this superlative late-period violin has a voice that is truly unforgettable: dark, shimmering, and plaintively expressive.

The afterglow of the concert lingered in the green room, amid the press of well-wishers and colleagues, as Kavakos and I made plans to meet after the weekend to talk fiddles and especially to refresh my study of the 'Willemotte'. But within days the growing Covid-19 situation had enveloped all of us; Kavakos was engrossed in delayed flights and cancelled concerts as we entered this new, long period of separation and unplanned sabbatical. That meeting proved to be the only chance I would have to re-acquaint myself with this fine instrument, at least for the next several months of lockdown.

TUCKER DENISLEY

Right Leonidas Kavakos (left) playing the 'Willemotte' alongside Emanuel Ax (centre) and Yo-Yo Ma (right)



Fortunately, the 'Willemotte' was included in the 2009 Strad3D project, a multidisciplinary study led by physicist George Bissinger and myself. Strad3D was published in digital form, and the project included the 'Titian' Stradivari of 1715 and the 'Plowden' Guarneri of 1735. All the information and images presented here are drawn from the extensive Strad3D archive, including photos, measurements, acoustic tests, CT scans and modal animations. The material also included recorded musical excerpts, to hear the 'Willemotte' in context with these other instruments. This violin has been subsequently restored, and some details of condition and set-up may have been modified since our measurements were made.

The examination of the 'Willemotte' here completes a circle, as we have similarly examined the 'Titian' and the 'Plowden' in these pages. I shall also reference our related study of the 'Huberman' Stradivari of 1713, along with other Stradivari violins that I have personally studied. As violin makers we can attempt to understand the effects of these varied structures on sound, and to use this knowledge to inform the building process of our own new violins.

The instrument is tonally very striking. To my ears it has a transparent 'vocal' sound, with much detail and expressive range, dark while retaining the typical Stradivari 'sizzle' in the high register. The effect is almost of two violins playing in unison, with a velvet buffer in the middle range. The 'Willemotte' leaves one grasping for the right adjectives: complex, deep, pungent, something you almost taste as much as hear.

According to Florian Leonhard, who sold Kavakos the violin in 2017, its earliest known owner was Jean-Baptiste Cartier of Paris. This is evidenced in the records of luthier and dealer Charles Eugène Gand in 1880. Cartier was employed as a violinist by Marie Antoinette from 1785 until the Revolution in 1789, after which he became deputy concertmaster of the Paris Opera among other prestigious posts. On his death in 1841, Gand & Bernardel bought the violin from his family and in 1886 sold it for 13,000 francs to Charles Willemotte, a distinguished 19th-century collector, connoisseur and amateur player who lived in Antwerp. During his lifetime Willemotte owned no fewer than 20 of the finest Stradivaris, as well as other instruments too numerous to list. Shortly before his death in 1893, Willemotte's renowned collection was dispersed and, according to the reconstruction carried out by Alfred Hill, this instrument and several others >

BACK PHOTO TUCKER DENISLEY; KAVAKOS PHOTO BBC/CHRIS CHRISTODOULOU



were purchased by Charles Edler of Frankfurt. In 1929, the 'Willemotte' was once again sold by Hill & Sons to a Dr Gerhard Tischer (1877–1959), a professor of musicology at the Hochschule für Musik in Cologne. According to Henley's *Universal Dictionary of Violin & Bow Makers*, the violin appeared in a collection owned by a Herr Kebs (Krebs?), and before the end of the 1950s was in the hands of the Swiss dealer Henry Werro, who sold it to the distinguished Berlin-born violinist Maria Lidka. In 1933 she fled the Nazis for the UK, where she became a distinguished performer and teacher at London's Royal College of Music. She championed British music, and played in the Czech Trio alongside Walter Süsskind and Karel Horitz. By 1983 the instrument had found its way to North America and was sold by dealers Bein & Fushi to the American physicist Albert Overhauser, who acquired it for his son-in-law, a young violinist. In 1988 the 'Willemotte' was once more sold by Bein & Fushi, to the prize-winning molecular biologist and amateur violinist Mark Ptashne who had it in his collection for over 20 years. I first encountered the violin as the caretaker for Ptashne's instruments.

The instrument has a muscular ruggedness and strong character: massive, with generous edges, full arching and broad f-holes. Its condition is quite fresh; well played and worn, but pure and with little over-coating or retouching of the varnish. The brusque workmanship, absence of thick polish, and the patina brought about by long use all make the violin feel honest and revealing.

The top is made from different billets of spruce, with wider, more variable grain on the bass half. According to a dendrochronology report by John Topham, this top wood

THE INSTRUMENT HAS A MUSCULAR RUGGEDNESS AND STRONG CHARACTER: MASSIVE, WITH GENEROUS EDGES, FULL ARCHING AND BROAD F-HOLES

suggests that Stradivari had acquired spruce cut after 1720. The maple is imported, unlike the local oppio he often used in the late 1720s. The back wood is well quartered, with fine grain and a soft rolling flame. CT analysis indicates that top and back are of denser material than the 'Titian' or the 'Plowden'.

For Strad3D, François Denis analysed and recreated the proportional design of the 'Titian' Stradivari. For a later article on the 1713 'Huberman' Stradivari (*The Strad*, November 2013) we compared the rib outlines of both the 'Huberman' and the 'Titian'. Denis concluded that both were apparently made on the same 'P' form, identified in the inventory of Cremona's Museo del Violino as MS44.

Using CT scans, I was able to compare the rib outlines of the 'Titian' and the 'Willemotte' directly. They were clearly made on the same pattern, with only minor variation in the carving of the corner-blocks and end-block, and some distortion over

time, showing the consistency of the Stradivari workshop, and their fidelity to their own designs.

Despite the similarity of model and proportion, each of these violins gives a different visual impression. The 'Huberman' corners are more deeply cut in the outer curves, with longer corners and thus a longer, more elegant purfling mitre. The 'Titian' corners have a strong, solid impression, and are surprisingly wide and blunt, giving an impression of bulk, owing to the flatter cutting of the corners' outer curves. The 'Willemotte' corners are again fuller in the outer curves of the corners, but with the purfling set in further.

Stradivari instruments did change significantly in 1727, particularly in the very full arching and more uniform back thickness, and in the resulting sound characteristics. Similarly full archings and uniform back thicknesses were seen earlier, especially in the larger-pattern violins such as the 'Leonora Jackson' of 1714 and the 1715 'Rode, Duke of Cambridge'. But this became more pronounced and prevalent after 1727. Was there a deliberate reach for a new tonal goal, or a reversion to an earlier working style?

While Stradivari introduced new models over the years, with full working drawings, the changes seen here are less in the basic design, but rather more a function of workbench practice, which can be very personal and persistent in individual makers. Stradivari seems to have been very involved in the direction of his assistants, but the individual work styles of the various craftspeople involved can still be seen in finished instruments.

Francesco and Omobono, Antonio's sons from his first marriage, are well known, and Francesco had a major role in the workshop. However, Carlo Chiesa, in researching his book *The Stradivari Legacy*, uncovered evidence for the existence of

one Giovanni Battista Martino, a son from Antonio's second marriage, who may also have been active in the workshop. If true, this likely would have been from about 1715, and his hand would have been apparent in the renewed refinement of instruments made after 1716. Giovanni Battista Martino died in 1727, after which the style of new Stradivari instruments shifted and reverted significantly after that. Could this suggest a major change in the workshop, as tasks long delegated were again done by Antonio or Francesco?

Arching is one of the most significant variables in tone colour and projection. For example, the 1713 'Huberman' Stradivari has a very sleek arching, rather flat and low, gracefully sweeping into the channel. This makes a compliant structure, and in fact the 'Huberman' is a flexible and smooth-sounding violin, with lower-frequency body modes, while still retaining the characteristic Stradivari high sizzle. The 'Titian' top arching is somewhat fuller, especially the horizon, with more sculpting near the f-holes, probably adding focus and edge to the sound of that instrument.

The 'Willemotte' arching is markedly higher, at around 16.8mm in the top versus 15.8mm for that of the 'Titian'. Even more striking is the very full top longitudinal arch. The back is similarly full. These full-arched instruments tend to have a different character of sound, with a more pronounced low and high range, and less output in the middle range.

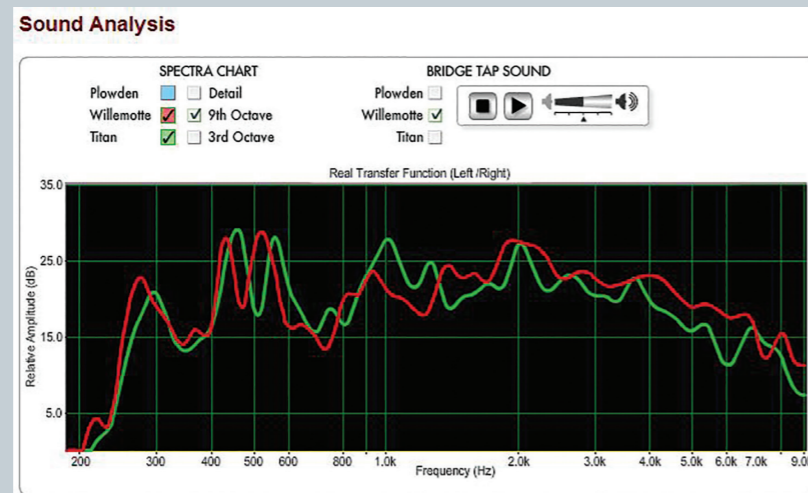
The back thickness of the 'Titian' and the 'Huberman' have the classic 'bull's eye' of thickness in the centre of the back, tapering down to thinner areas in the flanks. As with the arching, many of Stradivari's instruments made after 1727 show a distinct change in graduation patterns. They are more >

ACOUSTIC NOTES

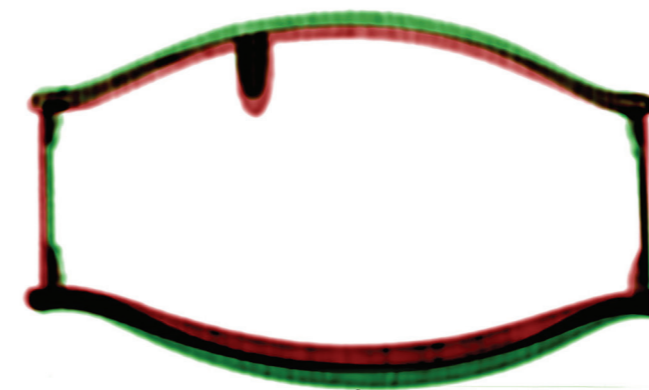
Comparing the sound spectra of the 'Willemotte' and 'Titian' brings up some interesting contrasts

Computer analysis of sound response is a way to visualise and document tone colour, and to add perspective to our subjective judgements. When we compare the acoustic 'sound spectra' of the 'Willemotte' and 'Titian', a notable feature of the former is the lowered output in what I call the 'presence' region, about 800 to 1300Hz. Too much output in this range can sound aggressive and edgy, whereas very low output might sound too dulcet and lacking in grit. In fact, the 'Willemotte' sounds remarkably refined, while retaining a brilliant edge. This violin has strong output across the 2–4kHz region, for brilliance and clarity, essential for the playing of a soloist.

The high arching of the 'Willemotte' encloses a larger air volume, which can be seen in the lower frequency of the air resonance (A0), important for warmth of sound. The flexibility of the full-arched plates also results in a lower-frequency main body resonance (B1+) associated with fullness of sound. This combination of full lower modes, a dip in the mid-range, and a broad band of high overtones all combine to create the distinct timbre of this violin.



SAM ZYGUNTOWICZ



Above and below CT scans comparing the archings of the 'Willemotte' (green) with those of the 'Titian' (red)



IMAGES SAM ZYGUNTOWICZ/STRAD3D

THE 'WILLEMOTTE' ARCHING IS MARKEDLY HIGHER, AT AROUND 16.8mm IN THE TOP VERSUS 15.8mm FOR THAT OF THE 'TITIAN'



uniform in thickness through the middle section, with less of a differential to the thicknesses in the C-bouts, again recalling the relatively even thickness of the large pattern violins of c.1715. Accordingly, the 'Willemotte' is more generally uniform in back thickness, nowhere thicker than 4mm but staying generally strong throughout.

The edgework and purfling of the 'Willemotte' are particularly distinctive. The purfling is well set in from the edge with a generous margin of approximately 4.3mm, contrasting with the slender 3.7mm margin found on the 'Titian'. This adds to the generally robust appearance of this violin, even though the actual dimensions of the body are compact. In practice at the workbench, this wide margin allowed Stradivari to form his characteristic bee-stings, with only minimal deviation from the purfling marker scribe lines, as well as allowing room for a less precise purfling channel.

This purfling gives a vivid example of the efficiency of well-practised technique and ingrained style. For example, the upper bass-side corner on the back is a well-executed classic bee-sting, with the point deflecting close to the mitre, leaving a bit of the original scribe mark visible, and with a straight cut forming the V-shaped point. The purfling groove in the lower bass-side corner is similarly cut, but the purfling strips barely meet in a mitre, leaving some type of filler in the gaps. Even with this failed mitre, the shaping and gesture of the purfling point convey the same gesture, and what could be a flaw becomes a flourish.

The f-holes have upright stems, confidently cut, with wide, well-scooped lower wings which add to the muscular appearance. The lower eyes of the f-holes are ▶

THE PURFLING IS WELL SET IN, ADDING TO THE GENERALLY ROBUST APPEARANCE OF THE 'WILLEMOTTE'



Left The purfling in the upper bass-side corner ends in a classic bee-sting



Right Conversely, the strips in the lower bass-side corner do not exactly meet in a mitre

LEONIDAS KAVAKOS ON THE 'WILLEMOTTE'



I first encountered the 'Willemotte' in 1994 at the Guarneri 'del Gesù' exhibition at New York's Metropolitan Museum of Art. I met the owner, Mark Ptashne, in a hotel lobby and he showed it to me along with some other instruments. I was still on cloud nine after buying the 'Falmouth' Stradivari of c.1692 and wasn't expecting any instrument to be as good, but when I put my bow on the string it was like the earth moved beneath me. I thought it couldn't be true – the violin had so many overtones, it was as if every note gave new possibilities, and opened my eyes to what a great instrument could be. Obviously the 'Willemotte' wasn't for sale, so I just hoped that one day I could get an instrument with such sound.

Twenty years went by and I came across the violin again at Florian Leonhard's north London shop. I recognised it immediately and asked if I could play it. Exactly the same qualities stood out to me; but I thought there was even more richness 'hiding', and suggested that Florian could change the neck angle. He said he would only make the change if I bought the violin, as it was possible that other players wouldn't agree with the change. We also tried other adjustments, such as the saddle height. The violin was so sensitive and responsive in the direction I wanted that I knew there were new sound heavens awaiting me.

The 'Willemotte' is a very robust, powerful instrument, a huge model with broad f-holes, full arching and high ribs. It has a refined, perfumed kind of tone quality under the ear, yet when I hear someone else play it in a concert hall it has an incredibly complex, multidimensional character. It's super-sensitive, and responds to everything I try to do with it. Three years after buying it, I'm still discovering a spiritual, ethereal quality to the sound, which comes from everywhere and nowhere – it's a kind of presence that permeates everything I play. It never stops surprising me: I work on the sound non-stop, and often try different strings just to see what changes they make. Every time I start practising a piece, I'll spend one or two days experimenting with different bows, playing the same passages to find the tone quality I prefer. I've tried around a hundred Strads and Guarneris in my life, and the 'Willemotte' is surely among the finest I've ever played.

INTERVIEW BY CHRISTIAN LLOYD



set close to the C-bout edges, which might add flexibility to the structure.

The scroll is made of typically plain, fine-grained maple, allowing for easy carving. In contrast to the edgework, the scroll is smoothly cut, surprisingly consistent with those of earlier instruments. This consistency might indicate that the scroll carving had been delegated to Francesco for some time. The profile is sleek, with a graceful oval head, slender pegbox and well-formed throat, with a broad chamfer which has been rounded off. The back of the pegbox is wide, with typical gouge or scraper marks, even if the scooping near the chin does wander a little. Despite some traces of toolwork, the scroll finishing is refined, even on the bevels of the throat, suggesting the use of a fine abrasive.

This fine finishing extends to the body, which is surprisingly smooth with few visible toolmarks. Close examination of the channel on the back reveals tiny parallel scratches, likely from



The f-holes have confidently cut, upright stems, with wide, well-scooped lower wings

KAVAKOS PHOTO MARCO BORGGREVE; F-HOLE PHOTOS SAM ZYGUNTOWICZ

THE PROFILE OF THE SCROLL IS SLEEK, WITH A GRACEFUL OVAL HEAD, SLENDER PEGBOX AND WELL-FORMED THROAT



ANGLED SCROLL PHOTOS FLORIAN LEONHARD FINE VIOLINS; OTHER SCROLL PHOTOS TUCKER DENISLEY; LABEL PHOTO SAM ZYGUNTOWICZ

some type of abrasive, perhaps horsetail or sharkskin. The spruce texture is very flat and even, with no raised grain texture, matching the well-smoothed maple back. The ground of the wood is rich and slightly dark. The red-brown varnish lies directly on the prepared wood surface and ground, with no marked texture seen even as the varnish wears thin on the heavily worn areas.

I find it fascinating to trace the evolution of Stradivari construction styles and tone over time, from the intimacy of the Amatisé period, through the clarity of the golden period, the broader 'G' form, and finally the full-arched, deep late-period instruments. Individual instruments do vary within these periods, but one can identify the gradual development and search for perfection.

I have found the 'Willemotte' Stradivari a fitting subject for our current times. It demonstrates the power and durability of long training and firm tradition, in the face of adversity and age. Antonio Stradivari would have grown up in the aftermath of the famine in 1628 and the plague of 1630, and Cremona experienced multiple wars and foreign occupations during his lifetime. Stradivari would have been 90 years old when he made this violin, while his son and principal assistant Francesco would

have been 63, already old for the time. Yet the waning of the precision of youth actually highlights the underlying techniques, usually subsumed in a sleek golden-period Stradivari. The resulting violin radiates nobility and a forceful personality to which we can only aspire, and a continuity with traditions that still reach out to us across centuries. ●

Subscribers to *The Strad* receive a free poster of the 'Willemotte' Stradivari with this issue. To obtain a rolled copy of the poster, please visit www.thestrادshop.com. Strad3D: strad3d.org

