

Banishing the wolf

Peter Zaret can usually be found at his office–showroom in a modest low-lying building tucked back from the roar of passing traffic on one of Cleveland’s main shopping arteries. A quiet man, whose outward demeanour speaks more of scientific research than marketing, Zaret discovered his calling as a luthier after a successful career as concertmaster and violin professor in the US.

His introduction to the violin world came at the early age of five and, following the path of many a fine American violinist, he continued his

training at the Juilliard School of Music with Joseph Fuchs and Ivan Galamian, where he received both his bachelor and masters degrees. In the course of his playing career Zaret was concertmaster of the Springfield Symphony in

Ohio and the Norfolk Symphony and Virginia Opera in Virginia, but after many years as a performing violinist and teacher he decided to ease his way out of being an active musician and get into the business of buying and selling violins.

Like many violinists, Zaret was obsessed by tone and how to improve the sound of an instrument, and he soon began a technical investigation into the instrument itself. ‘I began to read obsessively on the subject of violin making, starting with Sacconi’s well-known

treatise,’ he says. ‘The more I read, the more I became convinced that I would have to learn about reconstructing and repairing violins myself.’

Operating out of his garage in Norfolk, Virginia, Zaret took advice from luthiers and experimented with hundreds of instruments. Over the years he gradually came closer to what he refers to as his

eureka moment. ‘The more I experimented with instruments, the more I realised that the bass-bar, the key component in controlling vibration, was something I could experiment with. I was soon surprised to find that an instrument can be controlled by the bass-bar approximately 80 per cent of the time. When I began changing the traditional form of the bass-bar, colleagues became more than sceptical although they too understand that a fine bass-bar makes a big difference in an instrument’s tone.’

In 1995, after more than a decade of fiddling with thousands of instruments, Zaret was convinced he had found the solution: a rectangular bass-bar with an end considerably wider than the conventional form. ‘Although I admire the work of that real American pioneer Carleen Hutchins, a luthier who used physics



Does Peter Zaret's patented redesign of the bass-bar really give a stronger, wolf-free sound?

Heather Kurzbauer finds out more



ABOVE Zaret in his Cleveland workshop, where he has been fitting bass-bars since 1998

LEFT a completed bass-bar in three sections

OPPOSITE the process of bass-bar construction. The proportions of the sections are drastically larger than those of standard bass-bars



On a violin, the centre section of a bass-bar by Zaret will be between seven and eight inches long and, depending on the instrument, around 27mm high and 5.5mm wide – the latter measurement is the same as a traditional bass-bar, but all three sections are drastically larger overall. 'What allows me to do this is the V-shaped notch I put in between the centre section and the ends. This gives my bass-bar enough flexibility to go with its added stiffness,' says Zaret.

to guide her every step, I preferred to take a trial-and-error approach to her way of adjusting instruments according to exact technical specifications. The bass-bar controls the vibration across the instrument. On the G string the violin's top plate vibrates, and on the E string the sound stiffens and becomes brighter and louder. Experimenting with a bass-bar somewhat longer than the traditional one produced results that astonished me: the wolf on the G string, so common to violins, disappeared. Adding weight to the end of the bass-bar added voice, power and a sizzling sound that reacts quickly to bow speed without suffering from an overly bright quality. I realised that after years of experiments I was really on to something.'

Zaret's bass-bars are generally in three parts, although he will sometimes alter them, adding wood in some sections and subtracting in others in order to finely adjust the sound. 'One of the myths about the bass-bar is that, in order to function properly, it has to be one slender piece of tight-grained wood. Nonsense – why can't a bass-bar be formed out of more than one piece? I will sometimes end up with a bar in five or six pieces – it doesn't matter how many pieces it is in just as long as the weight and mass are distributed correctly.'

Measurements and proportions are different in the other instruments of the string family. 'Full-size violins and cellos have basically the same shape, but with violas and double basses the problems are different. I make the centre section proportionately shorter but higher; this builds up the bass and robs from the treble, but since these instruments are too small for their acoustical range it doesn't matter as the treble is overloaded anyway.'

Zaret maintains that his father's early lessons in mathematics and physics stood him in good stead for his next uphill battle: obtaining scientific proof that his bass-bar invention was as good as it sounded. He approached two acousticians, Norman Pickering and Oliver Rogers, who pitted an old Italian violin against a German instrument falsely labelled Neuner which was fitted with Zaret's patented bass-bar. The tests, which readers can follow on Zaret's website www.zaretandsonsviolins.com, were conducted on a computer which played the two violins. Microphones were placed above and below the violins and an attachment fastened to the bridge that fed the sound into the violin. The vibrations were then fed back into the computer. The test measured the decibels on every note from an open G upwards, for three octaves. The violin ▶

containing Zaret's bass-bar had an average decibel level considerably higher than the old Italian violin (the average power on every note of the Neuner was 21.65dB, as opposed to 20.65dB on the Italian violin). It was also more even. 'Although power is not everything, every soloist knows what it is like to get drowned out by an orchestra or a piano,' observes Zaret.

Zaret's next step was to convince the violin world that he was really on to something. 'Most of the violin business centres on the myth that old instruments (particularly Italian and French) are great. I felt that I had to be secretive at first, as business in the violin world is predicated on driving up prices and perpetuating the myth that old is unattainable in terms of quality and of course price. But I had hope that luthiers would come around. You could really hear the results – the wider I made the end of the bass-bar, the deeper and better the tone, but even mentioning that to other dealers prompted laughter and derogatory comments during those first years.'

Zaret's goal of producing affordable student violins with a sound as good as their more exclusive, expensive



would want them to believe in. Violists do tend to go their own way.'

Firm in his commitment to improving his invention, Zaret never installs a bass-bar in an instrument that he feels should remain untouched, but if he gets a fine old

ABOVE Miran Kojian playing his violin, which contains a Zaret bass-bar. He calls the invention 'amazing'

'I REMAIN ATTACHED TO THE IDEA OF PRODUCING A QUALITY SOUND FROM INSTRUMENTS IN THE LOWER END OF THE PRICE SPECTRUM'

counterparts was indeed perceived as a threat to established violin dealers. 'After all, if a student could purchase a comparatively inexpensive instrument and order a bass-bar adjustment to achieve a result that outplayed instruments three times the price, dealers would suffer a tremendous loss of business. I am not denigrating the incredible sound of some of the great old instruments, I am only registering my ongoing sadness that the business is controlled by factors way beyond how the instrument actually sounds.'

A bass-bar patent under his belt, and the time was ripe for change. Zaret moved his business to Cleveland, Ohio, in 1998 citing the proximity of a great orchestra and fine music schools and conservatories as a motivation. 'I hoped that by changing location I could really focus on my discovery. Also, I liked the energy of the city, a forward-moving rhythm without the frantic pace of my birthplace, New York.' Since his relocation an increasing number of soloists, orchestral players and pedagogues have lent an ear to his discovery. Although the late Isaac Stern and soloists Eugene Fodor and Robert McDuffie registered their enthusiasm for the Zaret bass-bar, it is a long list of orchestral violists who have popularised his invention. 'Perhaps this is because violists rarely find themselves taking centre stage like top violinists do,' says Zaret. 'This makes them more open to change and less prone to falling for everything violin dealers

Italian or French violin with a bad wolf note, for instance, he will install it. 'I can't tell you why, but the bass-bar gets rid of the wolf tone and also improves the sound. I remain attached to the idea of producing a quality sound from instruments in the lower end of the price spectrum.' The praise from the converted rings louder than the contempt of the critics. The list of musicians who wax lyrical on the subject of Zaret's invention is a long one. Mark Jackobs, a violist in the Cleveland Orchestra, found that the bass-bar unlocked the natural reverberance of a Sergio Peresson viola. 'What used to be a tight, closed tone is now rich and clear,' he says. Miran Kojian, former concertmaster of the National Symphony, Washington, notes, 'the results that Peter Zaret has achieved with several violins of mine is nothing short of amazing. He has the knowledge, the foresight and the ability to transform the sound of a violin to give it more power, depth, brilliance and eliminate the wolf tones entirely. I think he is a genius.' Amir Shiff, former principal viola of the Philharmonia Hungarica, sums up the experiences of many a pleased string player. 'A colleague of mine from the Philharmonia Hungarica sent a box in the shape of a viola to Peter Zaret and within a few weeks received a vibrant, easily playable, full-sounding instrument.' Zaret's invention ably applied by his assistants might not reveal the secrets of Stradivari, but it certainly appears to help bring good sounds closer to home. ■