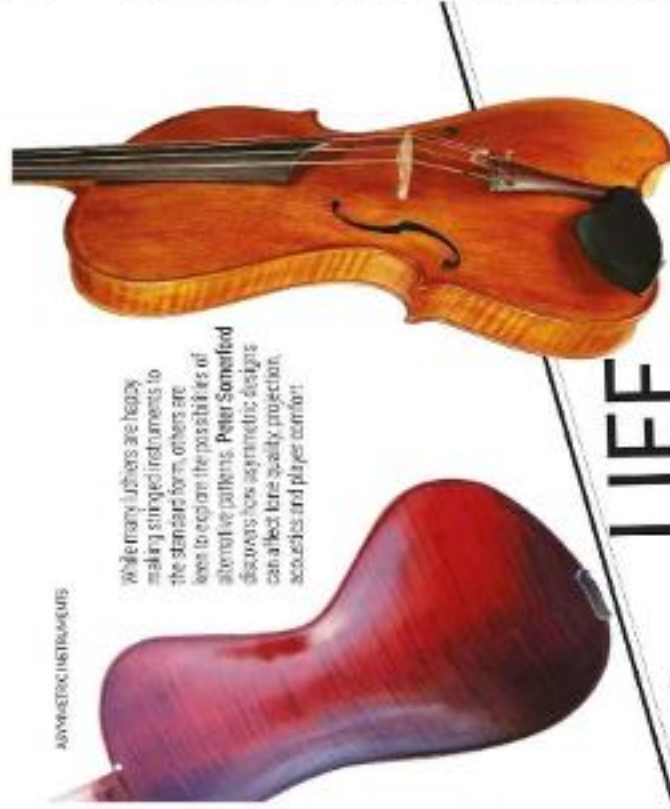




**The Strad**  
 September 2019  
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ASYMMETRIC INSTRUMENTS

While many luthiers are happy making stringed instruments to the standard form, others are keen to explore the possibilities of alternative patterns. Peter Sommerfeld discusses how asymmetric designs can affect tone quality, projection, acoustics and player comfort.



LIFE  
 OUT OF BALANCE



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Turning back to the violin, a recent project at the Santa Cecilia State Conservatory of Music in Italy brought together luthier Mauro Fabretti and Massimo de Bonifis, a violinist and professor of stringed instrument history and technology, to lead in the creation of an experimental asymmetric instrument. The 'Santa

Cecilia' violin was designed, according to De Bonifis, to achieve more volume, a better sound with wider harmonic range, and improved playability in higher positions. The most obvious asymmetry in this unusual-looking instrument is the sloping and rounded shape of the upper bouts, each of which has its own soundhole.

Fabretti says that the two upper 'lungs' of the instrument are intended to act 'in a certain sense as amplifiers, and as independently as possible with respect to the two lower lungs that are set in vibration by the soundpost placed under the bridge. The aim is to provide a wider and more nuanced harmonic range.' As with other ergonomic violas, the upper treble side of the 'Santa Cecilia' has been lowered to favour left-hand playability, but the geometry of the lowered side in this instance derives directly from Fibonacci's 'golden ratio'.



The 'Santa Cecilia' by Mauro Fabretti and Massimo de Bonifis