



The ObieAlto project: Looking for correlations between perceptual properties and constructional data

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Abstract

While the outline geometry differs slightly between violins, it can vary considerably between violas, which are less standardised. During the 2016 Oberlin workshop (organised by the Violin Society of America), a group of instrument makers have collectively designed the so-called ObieAlto outline. 25 violas were then built following this model (but without any other constraint except for the set of strings) and brought to the 2017 workshop during which two short excerpts (one in the low register, one in the high) were recorded by a professional player in a recording studio. The recordings were used in two listening tests, based on a free categorisation task. The results of the statistical and linguistic analyses of the listening tests show a large variability between the participants (20 makers and 10 violists) but still show groups of instruments that share relatively consensual features. Very few relationships have been found between these perceptual features and physical parameters (constructional data but as well audio descriptors calculated on the recordings and vibro-acoustical measurements) showing that the multiplicity of the parameters during the building process allow instrument makers to obtain a certain set of perceptual properties with very different strategies.

Keywords: Viola, perceptual properties, constructional data, free categorisation, audio descriptors