

### Scorched Guitar Soundboards and Mace – Comment on Comm. 1973

In Comm.1973 Martyn Hodgson suggests that the scorched soundboards found on some 18<sup>th</sup> C guitars might have been the result of repair work to straighten a permanently distorted (sunken) sound board. In support of his proposal, Martyn refers to the instructions and observations of Thomas Mace concerning the maintenance and repair of 17<sup>th</sup> C lute soundboards using hot irons (Note 1).

Unfortunately it may not be possible to determine if the scorching of guitar sound boards was an original feature of construction or evidence of later repair work.

However, it is perhaps worth noting that when Mace talks about straightening a lute belly with a hot iron, he is not referring to flattening any sinking of the belly (Note 2) but to correcting "that bending, which was caus'd by the taking off" (of the belly) – a procedure involving thoroughly wetting the protective lace, edges of the belly and the area over the neck/neck block, applying heat to soften the glue and separating the joints with a thin knife together with some forcing. Any straightening required would, therefore, apply to local areas around the edges of the belly (as well, presumably, as the area over the neck block "which oftentimes will be rise or swell'd to an unevenness"?).

Mace implies that the straightening should be done immediately after a belly has been removed ("before you lay it by") – no doubt to facilitate straightening while the glue soaked wood is still moist and pliable (Note 3).

The tool recommended by Mace (for various aspects of the repair work) is a heated iron measuring about  $\frac{3}{4}$  inch square by about 4 inches in length made flat and smooth at one end (ie used vertically) attached to a long shank and insulating wooden handle. For more detailed work he also recommends use of a smaller iron a quarter of that thickness ( $\frac{3}{8}$ <sup>th</sup> inch square?).

The iron was heated to red heat for non contact applications or to a lower temperature for contact applications.

At all times Mace is at pains to caution against burning, scorching or overheating the wood of the belly itself - "heat will set anything straight or awry" and "but take heed of scorching the belly, or overheating the joints lately glewed, lest your work come in pieces again" and "too much heat will warpe and prejudice the belly".

As it takes heat and uniform sustained pressure to permanently bend wood it seems unlikely that the scorching observed on the guitar sound board by Leonhard Pratter (reported in Comm 1963) is an example of a straightening process as the scorching heat appears to have been very quickly applied in a random fashion (i.e.without application of significant pressure). So there may be another reason for the scorching in this case?

So far there have been no reports of scorched sound boards being found on surviving lutes yet it is likely that most if not all of these instruments at some time in the past have been subject to repairs necessitating removal of the belly. Some of these lutes may even have been repaired by guitar makers. So I don't think that the reason for the scorched guitar sound boards can be so easily explained by the suggestion that Mace was somehow a more fastidious worker than instrument repairers of a later period.

Besides, did 18<sup>th</sup> C guitars (or lutes) ever suffer from permanently distorted or sunken soundboards (as a consequence of sustained string tension over time) to such an extent as to require correction by repairers?

**Note**

1) For those unfamiliar with the writings of Thomas Mace in 'Musick's Monument', Mace goes into some detail (Chapter IV, pages 54 to 61) on how to remove, repair and replace a lute belly. A free facsimile of Musick's Monument can be viewed or downloaded from the 'Internet Archive' site at: [archive.org/details/musicksmonument00mace](http://archive.org/details/musicksmonument00mace).

2) Mace appears to be referring to the familiar elastic (i.e. non permanent) sinking of a lute belly due to the rotation of the bridge under string loading. The force transmitted to first bar above the bridge will sometimes cause the glued joints at the end of a bar to fail requiring prompt remedial repairs to prevent more extensive damage and spoiling of the belly.

3) I still have one of my lute sound boards removed some years ago and then scrapped. There is no evidence of any permanent sinking of the area above the bridge. There are a couple of places at the sound board edge where there is some slight distortion (due to my carelessness with a thin knife when removing the sound board). As a test, I have tried to flatten these areas with a hot iron at below scorching temperature but without success.