



## Digitally Reconstructing Tudor Music Manuscripts *John Sadler's Partbooks*



Image courtesy of the Bodleian Library: MS. Mus. e. 2, fol.31r

When the Elizabethan gentleman John Sadler sat down to copy his collection of Latin sacred songs in c.1566-85, little did he know that he had chosen an overly acidic ink. Over the centuries this ink has burned through the paper leaving his once beautiful partbooks stained, difficult to read and too fragile to be handled.

Now we are digitally reconstructing Sadler's music manuscripts so that they can be read and performed from once more.



We begin with a very high resolution image of the original manuscript

Step 1: Replace burn through from acidic ink with clean paper texture

The pale brown colour behind the staves and the lighter, fuzzier notes are the results of acidic ink burning through from the reverse side of the page. Using Adobe Photoshop we select the colour of this burn through. Then we replace these colours with a 'pattern' created from the background paper texture of the page.



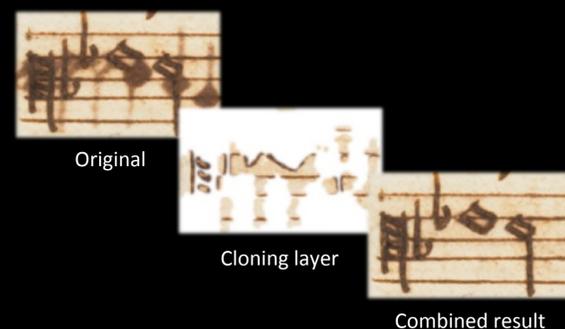
Step 2: Retrieve stave lines

The colours of the burn through from the reverse of the page are not wholly distinct from the writing we want to keep – the stave lines especially tend to disappear. By running the eraser tool along the stave lines we can delete any pattern fill that is now obscuring stave lines, note stems or text flourishes.



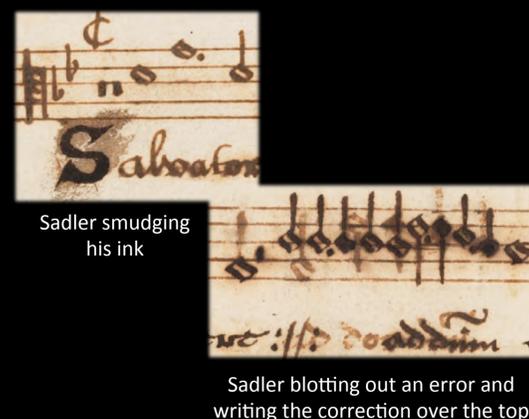
Step 3: Clone out final traces of burnt through notes

The pattern fill will not have got rid of all the notes burnt through from the reverse of the page, particularly where these were darkest. To remove the rest we use the 'clone stamp tool' to copy clean parts of the manuscript over the stained parts or sharp noteheads over obscured ones.



Step 4: Age the page

Our aim is not to make the page look like new, but rather to keep the appearance of a four hundred year old manuscript (just minus the destructive effects of the acidic ink). By deleting the pattern fill round the end of the pages we can return the smudges and stains that are the result of years of use. We also keep in Sadler's mistakes and corrections.



The final appearance represents how the page might have looked today if Sadler had not used acidic ink