A Comparative Examination of the Sanders Portrait of Shakespeare and the Droeshout Engraving of Shakespeare

A Comparative Examination of the Sanders Portrait of Shakespeare and the Droeshout Engraving of Shakespeare: A Software Approach to the Mystery of Shakespeare's Face

Droeshout.Sanders.Comparison

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In 2009 Andreas Kahnert used Photoshop to compare the Droeshout engraving and the Cobbe portrait (1). Significantly, his results have contributed to a definitive ruling out of the Cobbe as an authentic portrait of William Shakespeare. After watching Anne Henderson's documentary *Battle of Wills* (2) about the Sanders Portrait of Shakespeare, the only known portrait painted during his lifetime, we became fascinated with the various controversies regarding that claim and decided to explore further the comparison of the Sanders Portrait and the Martin Droeshout engraving mentioned in that documentary.

In what follows, a direct facial comparison approach is done using visual imaging software to compare the Sanders portrait with Droeshout's famous engraving of Shakespeare (used as the frontispiece on the title page to the 1623 First Folio), and generally regarded as an ill-achieved yet somewhat accurate representation of Shakespeare late in his life by a young engraver (22 years old) yet to achieve the technical mastery he was to display later in his career. This comparative approach is possible because of a specific feature common to each artwork derived from the fact that the subjects in both works are shown from the same perspective. Further, as a complement to the present study, the Chandos portrait was also studied using similar techniques. This paper summarizes some of the findings based on the unique comparative analysis the software permits.

Being aware of the likely critics of the approach chosen (software that permits sophisticated analysis of facial features), a tool to do the work automatically, in order to minimize any user involvement, was needed. The FACE-OFF facial recognition software used for the current study fulfills that requirement. Developed by Bob Schmitt (from visualfacerecognition.com), the concept behind the software is deceptively simple as Mr. Schmitt describes it (and we summarize):

- by finding the center of the eyes on both images with the help of a magnifier that one can move with a mouse, the software is able to normalize images;
- the software also rotates the faces as best as possible and the eyes are put on the same horizontal plane;
- then the pictures are placed so that a direct comparison can be done by sliding each image over each other as the user sees fit;
- and a full superimposition of the pictures can also be done with the software allowing for close comparison.

The main basis of this software is to adjust each picture to the same interpupillary distance (IPD). In adulthood the IPD is a constant value (3) and this anatomical reference marker is used regularly for forensic facial identification (4, 5).

Although similar results were obtained with the final state of Droeshout engraving (data not shown), the first state of the Droeshout engraving (6) was used in parallel to the Sanders portrait (7) for this comparison. From the start it was apparent that the comparison at the level of the mouth would not be that good given the very different "looks" of the sitter—in the Sanders portrait the subject is faintly (if intensely and enigmatically) smiling while in the Droeshout engraving Shakespeare is deadly serious with no smile at all.

Regardless of this difference, the FACE-OFF software was used to identify the center of each eye in each picture. Then the software did the rest automatically. Some of the screen-captures (using Corel Painter Essentials3 software) of the results are shown in the Fig. 1. The top screen-capture shows both subjects side-by-side, having the same IPD and their eyes put at the same horizontal level. And as the software cursor moves, the subject of the Sanders portrait fades in while Shakespeare's face in the Droeshout engraving fades out. These screen-captures demonstrate how the Sanders portrait and the Droeshout engraving are closely related to each other.

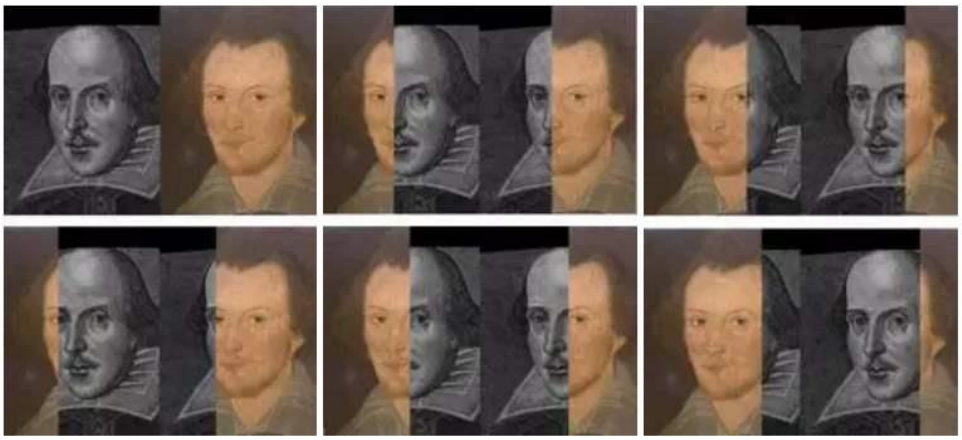

Fig. 1: *Various screen captures of the FACE-OFF comparison between the first state Droeshout engraving of Shakespeare and the Sanders portrait.*

Though a detailed Table including various comparative measurements could have been made, we wanted to keep things simple for this essay by adding to the first FACE-OFF screen-capture parallel lines that already put in evidence the major facial features similarities observed in the screen-captures and by numbering the most obvious similarities found from all the screen-capture pictures (Fig. 2). These include: the same size of forehead (Fig. 2 panel A); the same size of the eyes and nose areas (Fig. 2 panel B); the same height of the lower facial anatomy (Fig. 2 panel C); the same height between the eyebrows and the chin (Fig. 2 panels B + C); the same total facial height (Fig. 2 panels A + B + C) in each image.

Among the main similarities, it is possible to find: 1) a similar baldness pattern; 2) same large forehead; 3) similar delicate eyebrows; 4) similar space between the eyebrows; 5) same hairstyle; 6) similar eyelids and dark rings under and above the eyes; 7) similar right facial contour line up to the right eyebrow; 8) similar nose shape and nostrils; 9) *very similar left ear lobe (attached and itself a fairly rare anatomical marker);* 10) similar thin moustache above the upper lip; 11) similar thin upper lip; 12) similar chin; 13) and a similar left jaw line.

The extent of these detailed similarities is an *exceptional* indicator of contiguity between the images.

Fig. 2: *The similarities observed from the screen-captures obtained with the FACE-OFF software when comparing the Droeshout engraving and the Sanders portrait. Parallel lines were first drawn to highlight the main facial similarities, forehead (panel A), eyes and nose areas (panel B) and bottom part of the face (panel C) in each image. The more specific similarities were numbered and described in the text.*

After all these similarities were found using this direct comparison methodology, the question remains: can we say that the two subjects are the same? As Schmitt writes in his software description, there is no way to be 100% sure that two people are the same.

Nonetheless in light of the remarkable comparative correspondences revealed by the software analysis, how is it possible to see so many similarities between two different artworks done by two different artists using two different media (painting and engraving) and done nearly two decades apart (1603 and 1622)?

It appears obvious, too, that following the present comparison, the Droeshout engraving was a work *carefully done from a very precise model*, perhaps even a pre-existing portrait like the 1603 Sanders portrait. As mentioned previously, the FACE-OFF software also gives the user the possibility to do an overlay of the pictures compared. The first time we saw this overlay shown in Fig. 3—the left ear lobe superposition, the right eyebrow continuation, the remarkable correlation of facial outlines and shapes, and so forth, we were speechless, so close were the features.

Add to this the fact that both images have the relatively rare anatomical feature of the (left) attached earlobe *in plain display* and it becomes very possible that the Sanders portrait was in fact the source image for the Droeshout engraving. And one can still see the faint smile of the Sanders portrait subject as a subtle aspect of the Droeshout engraving.

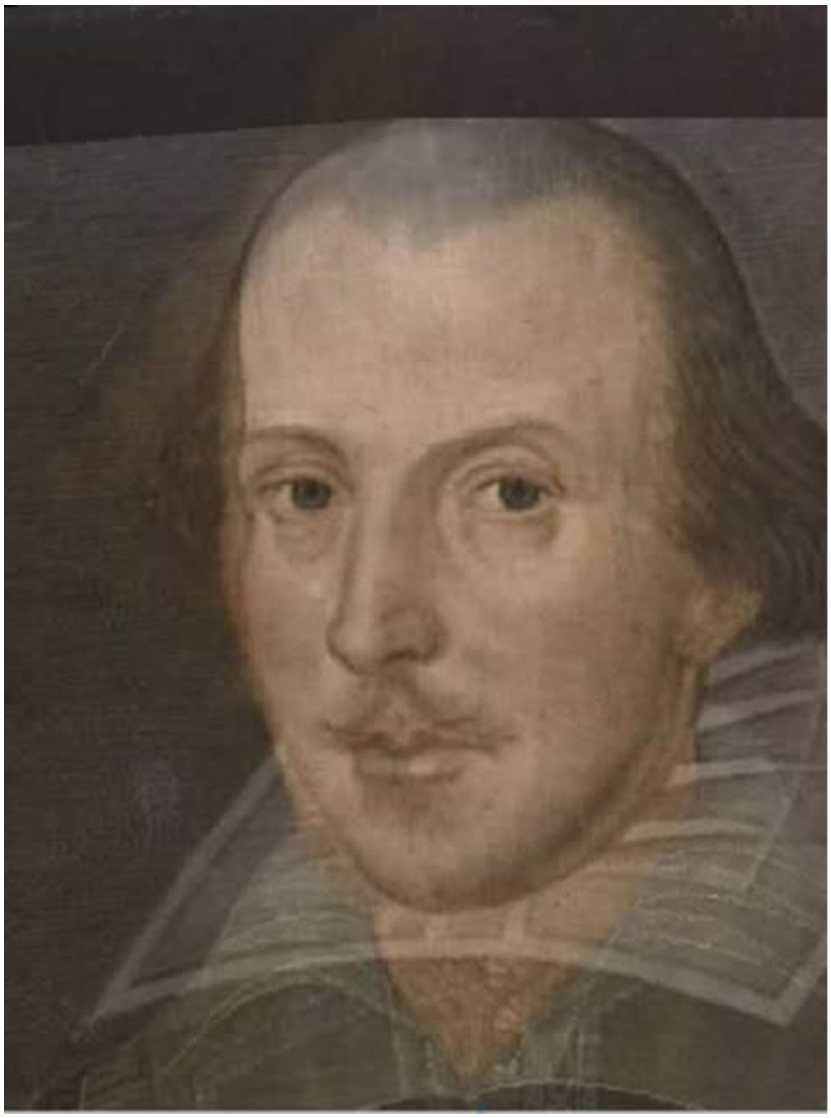

Fig. 3: *Overlay of the Droeshout engraving and the Sanders portrait using the FACE-OFF software.*

To test these results, obtained with specific facial recognition software, another tool was chosen, CorelDRAW X3 Graphics Suite. This software has plenty of useful features, including an eraser that was used to remove the smile from the Sanders portrait. After importing the Sanders portrait, erasing the mouth of the subject, importing the Droeshout engraving, measuring the IPDs, re-sizing the pictures accordingly (using the ratio of the IPDs measured), slightly rotating (1 to 2 degrees) and making transparent the Droeshout engraving, it was then possible to superpose both images as seen in Fig. 4. Many convincing screen captures were also obtained using the CorelDRAW software while sliding the Droeshout engraving over the Sanders portrait (data not shown but available if needed). The different software chosen to compare the Sanders portrait and the Droeshout engraving of Shakespeare give highly similar *if not identical results* (Figs. 3 and 4).

Fig. 4: *Superposition of the Droeshout engraving over the Sanders portrait after having erased the smile in the Sanders portrait using CorelDRAW software. Note the more formal representation of the ruff in the Droeshout as opposed to the friendship mode in which the Sanders Portrait is painted.*

Since the angle of the subject was also good, the FACE-OFF software was then used to compare the Chandos portrait (8) with the first state Droeshout engraving (6). As stated earlier, after having marked the center of the pupils in each picture, the FACE-OFF software did the rest. Automatically the software resized the pictures to the same IPD and without any involvement from the user it rotated if necessary the pictures and put the eyes on the same horizontal plane. Some of the screen captures obtained by using this procedure are shown in Figs. 5 (a,b,c).

Figs. 5 (a,b,c): *Various screen captures of the FACE-OFF comparison between the Chandos portrait and the first state Droeshout engraving.*

For this comparison it is easier to describe the major differences than the similarities. Indeed many major differences between the Chandos portrait and the Droeshout engraving were observed in those screen captures and are summarized in Fig. 6. Again, as was done for the Sanders portrait/Droeshout engraving comparison, parallel lines were added to the first screen capture of the Fig. 5 (A top, B middle and C bottom parts of each face). Furthermore, since both subjects were very serious (very similar closed mouths), a perpendicular line was also added in each picture just above the point where the nasal septum meets the upper lip.

The major differences for the Chandos portrait compared to the engraving were numbered as followed: 1) distinct right forehead; 2) distinct left forehead 3) wider left ear lobe tip; 4) wider space between the bottom of the nose and the left ear lobe tip; and (5) a shorter height of the C panel, that is, the space between the bottom of the nose and the chin.

It is important to remember that Shakespeare's close friends recognized the Droeshout engraving as an acceptable representation of the Bard. The present study has shown many similarities and correlations between the Sanders portrait and this famous engraving. At the opposite end of the spectrum, major facial differences are observable when the Chandos portrait is compared to the engraving. The Chandos portrait does not appear to be related to the Droeshout engraving in *any* significant way.

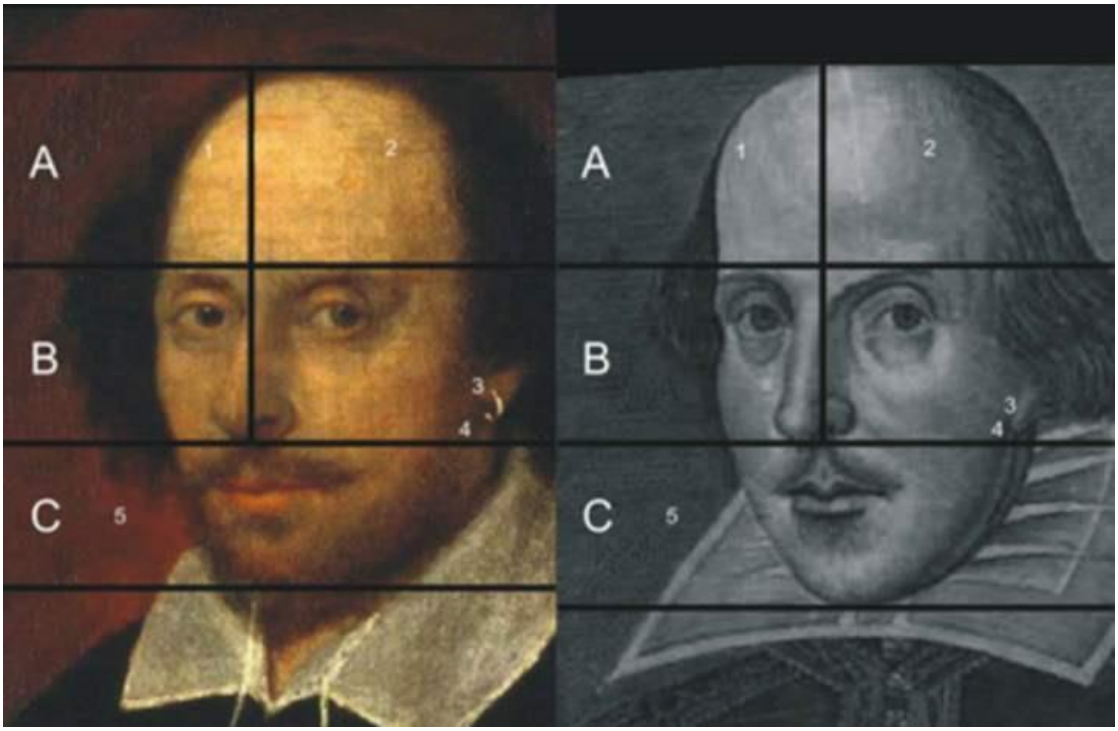

Fig. 6: *The major differences observed from the screen-captures obtained with the FACE-OFF software when comparing the Chandos portrait and the Droeshout engraving. Parallel lines were first drawn to highlight the forehead (panel A), eyes and nose areas (panel B) and bottom part of the face (panel C) in each image. A perpendicular line just above the point where the nasal septum meets the upper lip was also added in each picture. The major differences are numbered and described in the text.*

To conclude, the image of Fig. 4 may well represent the way the Bard looked during the last period of his life, while the Sanders portrait may show him at an earlier time. It is clearly possible, based on the exceptional number of similarities between the Sanders and the Droeshout, that Droeshout used the Sanders portrait as the model for his engraving.

References:

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8. http://en.wikipedia.org/wiki/File:Shakespeare.jpg.

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