Morphing of a bust of Julius Caesar at the National Museum of Antiquities, Rijksmuseum van Oudheden, Leiden.

Amelia Carolina Sparavigna

Department of Applied Science and Technology
Politecnico di Torino

Here we show some morphing of a marble head of Julius Caesar which is today on display in the National Museum of Antiquities, Rijksmuseum van Oudheden, Leiden. For the morphing we will use the marble head of Caesar of the Centrale Montemartini, Roma, the Caesar's head of the Camposanto Monumentale in Pisa, the Chiaramonti Caesar, and the Tusculum bust. Two lifelike reconstructions will also be proposed.

Torino. Written: 18 September 2018. Zenodo. DOI: 10.5281/zenodo.1421214

Morphing is an image processing tool that changes (or morphs) one image or shape into another through a seamless transition. Usually, it is applied to depict one person turning into another. Since the early 1990s, computer software had been used to create the transitions, which are used mainly for entertainment. Here we want to apply a morphing to a marble bust representing Julius Caesar. This is the bust, heavily damaged, which is today on display in the National Museum of Antiquities - Rijksmuseum van Oudheden - in Leiden. For all the details about this bust and the others here used for the morphing see please Refs. [1-4].

In [5], we proposed the morphing for the bust of Julius Caesar which is at the Centrale Montemartini museum in Rome. In [1], Johansen considered Montemartini and Leiden busts as two copies from a lost original, probably a bronze statue. Here we start to show the morphing of the Leiden bust using this Montemartini head. That is, we show the Leiden bust and the results we obtain by mixing it with the Montemartini head, through image processing. Note please that we are making a morphing to compare the busts and not to create an animation.

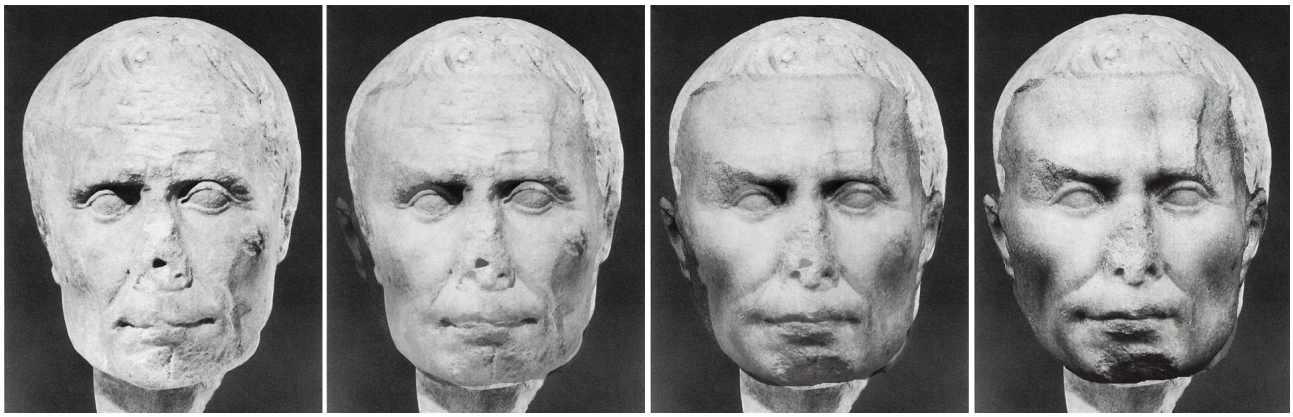

Figure 1: Morphing. From left to right: Leiden head, 2/3 Leiden and 1/3 Montemartini, 1/3 Leiden and 2/3 Montemartini, the face of Montemartini on the Leiden head. (Images of Leiden and Montemartini heads are a courtesy of ancientrome.ru . These images are used here just for scientific and cultural purposes).

In the Figure 1 we can see the first morphing. In the left panel we find the Leiden head. In the middle, we have two different mixed images of it with the Montemartini head. On the right we see the face of Montemartini on the Leiden head. Actually, we have a remarkable agreement.
In [5], we morphed Montemartini and the Caesar's head today at the Camposanto Monumentale of Pisa. So let us do the same here for the Leiden bust. In the Figure 2 the result. In the Figure 3, a lifelike rendering of the right image in the Figure 2 is given.

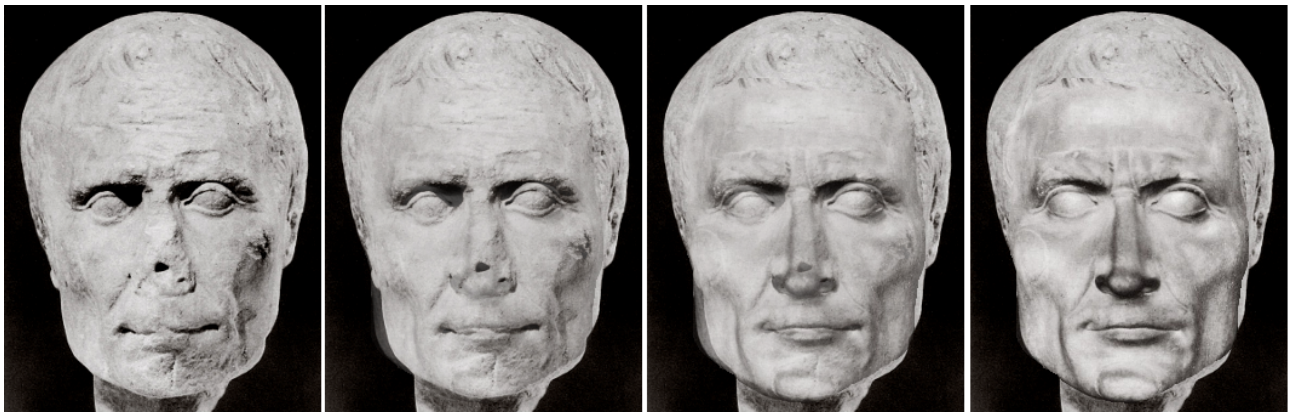

Figure 2: Morphing. From left to right: Leiden head, 2/3 Leiden and 1/3 Pisa Camposanto, 1/3 Leiden and 2/3 Pisa, the face of the Pisa bust on Leiden head. (Images of Leiden and Pisa heads are a courtesy of ancientrome.ru . These images are used here just for scientific and cultural purposes).

Figure 3: Lifelike rendering of the right image in the Figure 2.

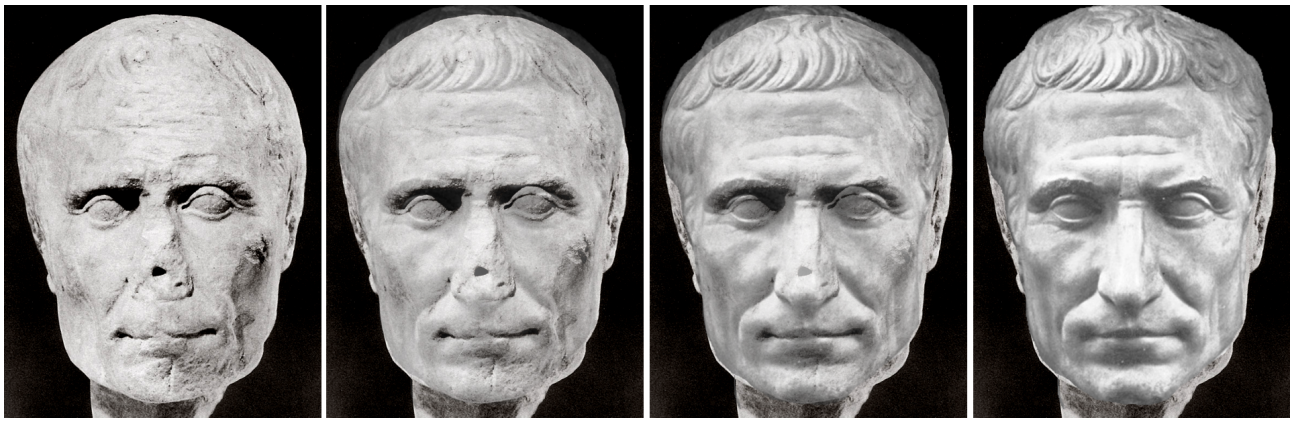

Figure 4: Morphing. From left to right: Leiden head, 2/3 Leiden and 1/3 Chiaramonti, 1/3 Leiden and 2/3 Chiaramonti, the Chiaramonti head. (Images of Leiden and Chiaramonti heads are a courtesy of ancientrome.ru . These images are used here just for scientific and cultural purposes).

Let us continue using the Chiaramonti Caesar. The result in the Figure 4 (note the remarkable agreement). The Chiaramonti Caesar is a portrait probably made after the Ides of March of 44 BC, sometime between 30-20 BC. This head of Caesar was sold to the Vatican Museums by the sculptor Vincenzo Pacetti in 1804, restored in 1823. The name of this head is due to the fact that, for many years, it was on display in the Chiaramonti Museum.
Let us conclude the morphing by showing the result we obtain when we use the Tusculum bust (of it and other busts we discussed in [6-16]). The result is given in the Figure 5.

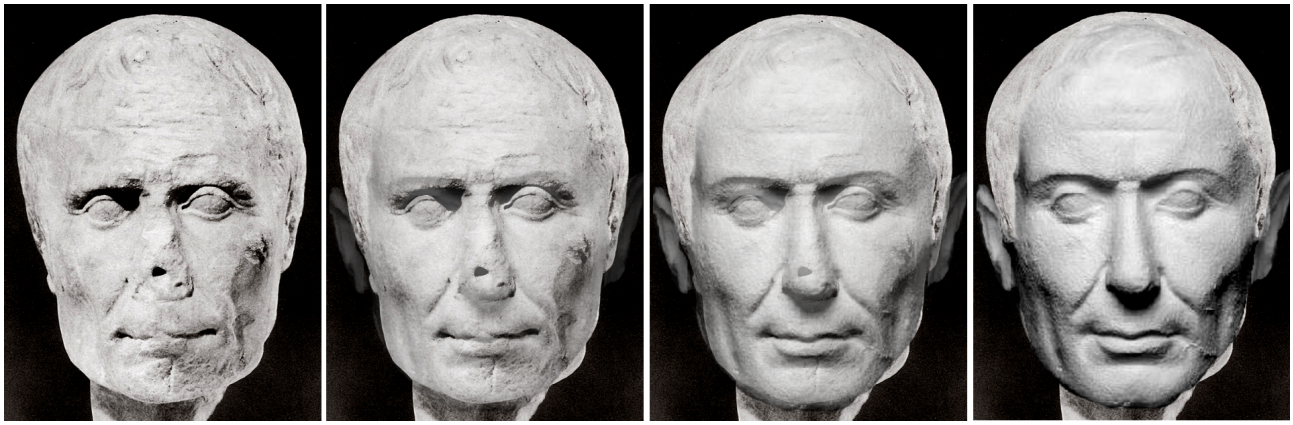

Figure 5: Morphing. From left to right: Leiden head, 2/3 Leiden and 1/3 Tusculum, 1/3 Leiden and 2/3 Tusculum, the Tusculum face on the Leiden bust. (Images of Leiden and Tusculum heads are a courtesy of ancientrome.ru . These images are used here just for scientific and cultural purposes).

The Tusculum bust is on display in the Museo Archeologico, Polo Reale, of Turin. A lifelike rendering is given in the Figure 6.

Figure 6: Lifelike rendering of the right image in the Figure 5.

The result we obtained, shown by the Figure 6, is quite different from the 3D reconstruction, based on the Leiden and the Tusculum busts, and proposed by the web site of the Rijksmuseum van Oudheden at [17] (“A new look at Julius Caesar”). In [17], we can read that who made the reconstruction aimed to provide a more lifelike rendering of Caesar. About the reconstruction shown in [17], and of the fact that its features are not fitting the Leiden bust and the Tusculum bust we discussed in [18].

References

[1] F. S. Johansen, Antichi ritratti di Caio Giulio Cesare nella scultura. Analecta Romana Instituti Danici, Roma, IV, 1967, pp. 7-68.
[2] The Gallery of Ancient Art. http://ancientrome.ru/art/artworken/
[3] F. S. Johansen, The Portraits in Marble of Gaius Julius Caesar, in Ancient Portraits in the P. Getty Museum, I, Malibu 1987, pp. 17-40
[4] Scott, F. J. (1903). Portraitures of Julius Caesar. New York. Longmans.
[5] Sparavigna, A. C. (2018). Morphing di una testa marmorea che ritrae Giulio Cesare. Zenodo. http://doi.org/10.5281/zenodo.1420201
[6] Sparavigna, A. C. (2013). Facial transformations of ancient portraits: the face of Caesar. arXiv preprint arXiv:1304.1972.
[7] Corazzi, G., & Sparavigna, A. C. (2013). Il Cesare Di Arles (Caesar at Arles). Archaeogate. Available at SSRN: https://ssrn.com/abstract=2808313
[8] Corazzi, G., & Sparavigna, A. C. (2013). The Rhone Caesar. Archeocommons, May 2013. Available at SSRN: https://ssrn.com/abstract=2749277
[9] Sparavigna, A. C. (2012). Portraits of Julius Caesar: a proposal for 3D analysis. arXiv preprint arXiv:1206.4866.
[10] Sparavigna, A. C. (2018). Comparing Tusculum and Arles busts in 3D. Zenodo. http://doi.org/10.5281/zenodo.1302210
[11] Sparavigna, A. C. (2018). Digital restoration of a marble head of Julius Caesar from Noviomagus (Nijmegen). Zenodo. http://doi.org/10.5281/zenodo.1299230
[12] Sparavigna, A. C. (2018). The three Caesars. Zenodo. http://doi.org/10.5281/zenodo.1302370
[13] Sparavigna, A. C. (2018). On a possible reconstruction of the face of Julius Caesar using a Leiden marble head. Zenodo. http://doi.org/10.5281/zenodo.1298695
[14] Sparavigna, A. C. (2018). The Profiles of Caesar's Heads Given by Tusculum and Pantelleria Marbles (July 18, 2018). Zenodo, DOI: 10.5281/zenodo.1314696. Available at SSRN: https://ssrn.com/abstract=3224213
[15] Sparavigna, A. C. (2018). Comparing the Profiles of Caesar's Heads Given by the Pantelleria Marble Bust and by a Coin of 44 BC. Zenodo, DOI: 10.5281/zenodo.1313808. Available at SSRN: https://ssrn.com/abstract=3224212
[16] Sparavigna, A. C. (2018). Profiles of Julius Caesar's Heads: A Biometric Approach. Zenodo. http://doi.org/10.5281/zenodo.1405085
[17] http://www.rmo.nl/english/current/news/a-new-look-at-caesar Page visited on 18 September 2018.
[18] Sparavigna, A. C. (2018). Stretching the Boundaries: On Maja d'Hollosy reconstruction of Caesar's head. Researchgate. Available at https://www.researchgate.net/publication/326020317_Stretching_the_Boundaries_On_Maja_d'Hollosy_reconstruction_of_Caesar's_head