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Profiles Of Julius Caesar's Heads: A Biometric Approach

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Profiles of Julius Caesar's Heads: A Biometric Approach

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Abstract: Here we want to show a possible biometric approach to the study of the profiles of ancient sculptures representing Julius Caesar. In particular, the approach is devoted to the study of the Arles bust.

In recent papers [1-3], we have shown that it is possible to use a biometric approach to the study of the portraitures of Julius Caesar and of Roman emperors, to test the agreement between the profiles represented by sculptures and coins. For what concerns Julius Caesar, we found an excellent agreement between the profiles of two marble portraits - Pantelleria and Tusculum - and a coin of 44 BC, struck just after Caesar's refusal of the crown offered by Mark Antony during the Lupercalia [4]. In these works, I proposed as biometric parameters to be used three distances and two angles. Distances are: a) between the ear and the nasal bridge, b) between the ear and the tip of the nose, and c) between the ear and the tip of the chin. The two angles are the corresponding angles between the above mentioned segments.

In general, of the two marble portraits of Caesar – those found in Tusculum and Pantelleria - we discussed in [5-7]. However, another very important marble bust had been considered too: it is the Arles bust, discovered by the French archaeologist Luc Long, who found it in 2007 after struggling with poor visibility, strong currents and the catfishes of Rhone [8]. The beautiful portrait, discovered in the depths of the right bank of the river near Arles, has been undoubtedly attributed by Long to Julius Caesar. This piece of work, made of Dokimeion marble (Frigia), has been brought up during one of the campaigns promoted in more than 20 years, by the DRASSM, French Department of Underwater Archaeology, directed by Long himself. The discovery was made in September 2007, however the news was breaking in May 2008. The Arles bust was the starring protagonist of an exhibition at the Louvre Museum in Paris from March 9 to June 25, 2012, during which it has been exhibited together with the Tusculum bust, today at the Archaeological Museum of Turin, the bust which is considered the most ancient portrait of Caesar.

The identification of the bust proposed by Long as the oldest and more realistic portraitureof Caesar, had not gained unanimous agreement from scholars: indeed, several archaeologists who have expertise in ancient portraitures, questioned the identity of the portrayed person. The first disagreeing with Long's interpretation was Paul Zanker: the bust could represent a private man portrayed with Caesar's features, according to the fashion of that age (Zeitgesicht), fashion which is well-attested in the portraiture of the late Republican period (for other references on the debate, see please [7]).
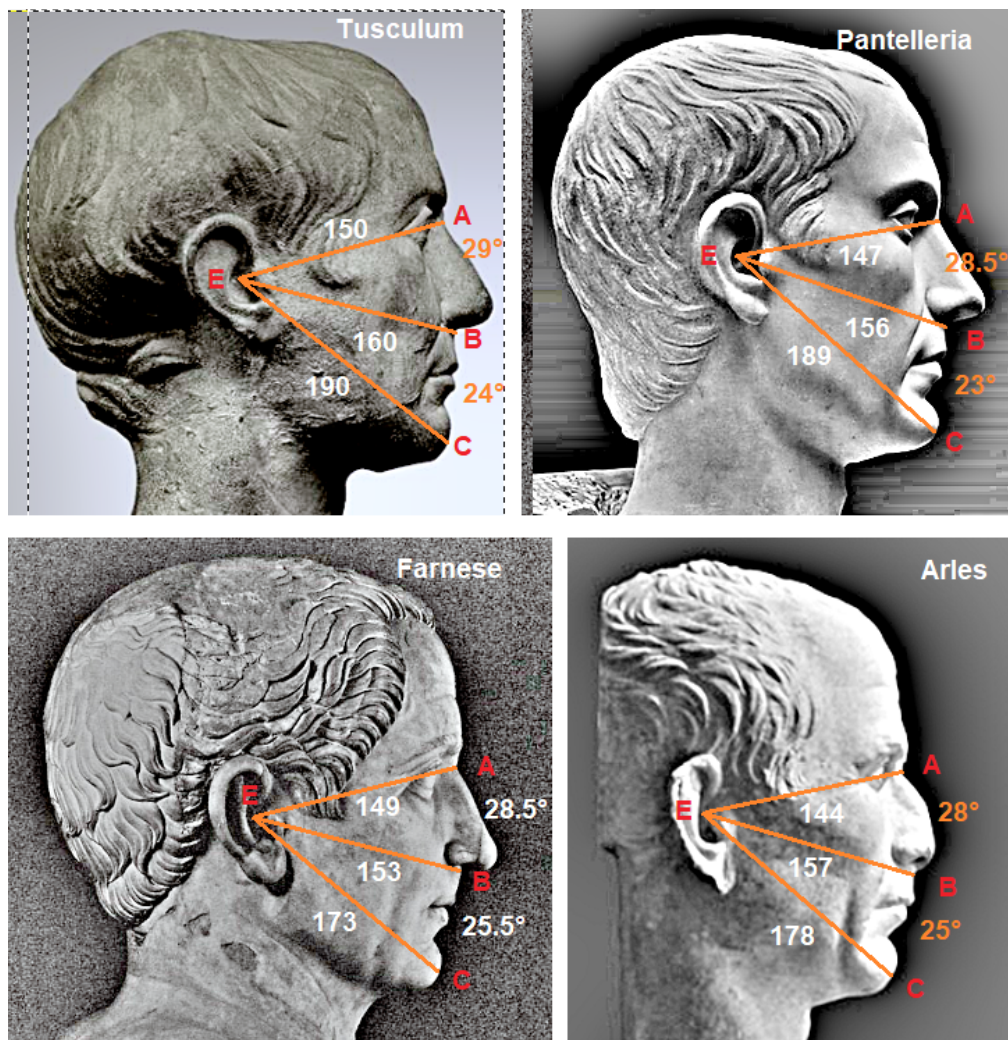

Figure 1. Profiles of marble heads (Tusculum, Pantelleria, Farnese collection and Arles) of Julius Caesar. Images of the busts are used here just for scientific and cultural purposes. Distances are given in numbers of pixels. (Courtesy images and credits. ancientrome.ru, Roger B. Ulrich for the Pantelleria bust, Johansen F. S., Ancient Portraits in the J. Paul Getti Museum, for the Farnese head. https://www.theapricity.com/forum/showthread.php?67787-Classify-Julius-Caesar/page4, user Columella for the Tusculum and Arles busts and https://www.sott.net/article/389160-Laughably-fake-reconstruction-of-Julius-Caesars-face-unveiled-by-Dutch-archaeologist, Harrison Koehli).

My first approach to the Arles bust was that proposed in 2012 [11]. In the reference, I suggested the use of a 3D scanning and computer rendering to create some virtual copies of marble busts to study and compare them. In particular, I considered the comparison fundamental for the Arles, Tusculum and Farnese busts of Caesar. Having not 3D scans, here I propose a comparison based on the profiles of the heads. In the Arles bust the nose is damaged. So, instead of using the tip of the nose as in [1-3], here I use the four points E, A, B, and C given in the Figure 1. Here the ratios of distances. Tusculum: EA/EB = 150/160 = 0.94 , EC/EB = 190/160 = 1.19; Pantelleria: EA/EB = 147/156 = 0.94 , EC/EB = 189/156 = 1.21; Farnese: EA/EB = 149/153 = 0.97 , EC/EB = 173/153 = 1.13; and Arles: EA/EB = 144/157 = 0.92 , EC/EB = 178/157 = 1.13. Angles are: Tusculum: α=29°, β=24°; Pantelleria: α=28.5°, β=23°; Farnese: α=28.5°, β=25.5°; Arles: α=28°, β=25°.

As we have previously told, some scholars questioned the fact that Caesar was portrayed in the Arles bust. So, let us use a statistical approach to this problem and consider some other heads too, which are representing Caesar for sure. These heads are given in the Figure 2.
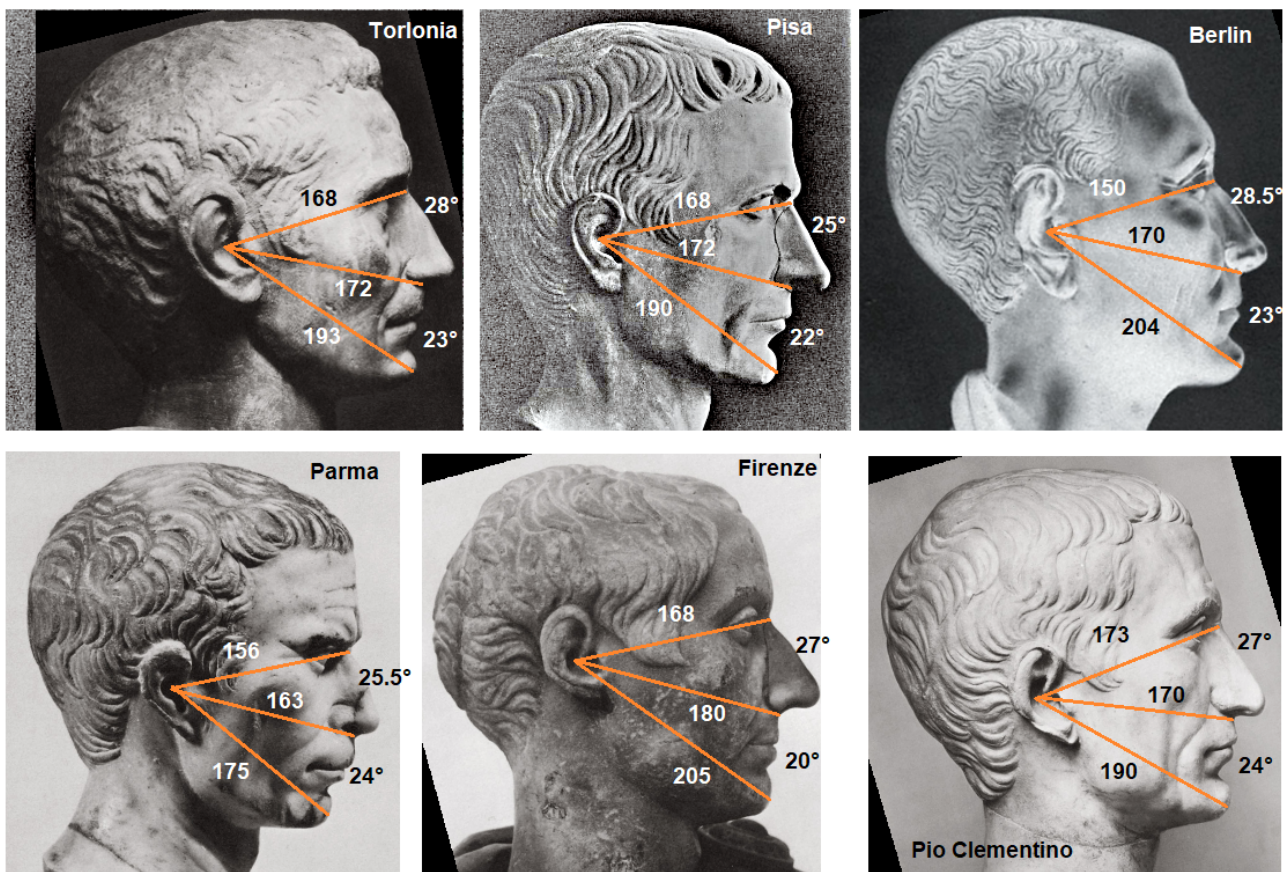

Figure 2. Profiles of marble heads (Torlonia, Pisa, Berlin, Parma, Firenze, Pio-Clementino in Rome) of Julius Caesar. Images of the busts are used here just for scientific and cultural purposes. Distances are given in numbers of pixels. (Courtesy images and credits. ancientrome.ru, Johansen F. S., Ancient Portraits in the J. Paul Getti Museum. See the pages at the web site for all details).

For the details on the Caesar's heads see please Ref.12. Here the ratios of distances from data given in the Figure 2.

Torlonia: EA/EB = 168/172 = 0.98 , EC/EB = 193/172 = 1.12

Pisa: EA/EB = 168/172 = 0.98 , EC/EB = 190/172 = 1.10

Berlin: EA/EB = 150/170 = 0.88 , EC/EB = 204/170 = 1.20

Parma: EA/EB = 156/163 = 0.96 , EC/EB = 175/163 = 1.07

Firenze: EA/EB = 168/180 = 0.93 , EC/EB = 205/180 = 1.14

Pio-Clementino (Roma): EA/EB = 173/170 = 1.02 , EC/EB = 190/170 = 1.12

To these data, let us add those from Figure 1 of Tusculum, Pantelleria and Farnese.

Tusculum: EA/EB = 0.94 , EC/EB = 1.19, Pantelleria: EA/EB = 0.94 , EC/EB = 1.21, Farnese: EA/EB = 0.97 , EC/EB = 1.13.

Let us evaluate, for this set of nine heads, the mean values of ratios EA/EB and EC/EB and their uncertainties. The uncertainty is given by the largest value minus the smallest value, divided by 2. We have: EA/EB = 0.955±0.045, EC/EB = 1.14±0.07 (*).

For what concerns the angles, we have: Torlonia: α=28°, β=23°; Pisa: α=25°, β=22°; Berlin: α=28.5°, β= 23°; Parma: α=25.5°, β=24°; Firenze: α=27°, β=20°; Pio-Clementino (Roma): α=27°, β=24°, and considering also Tusculum: α=29°, β=24°; Pantelleria: α=28.5°, β=23°; Farnese: α=28.5°, β=25.5°; we can have the mean angles and related uncertainties: α=27.5°± 2°, β= 23°±2.5° (**).

For the Arles head we have: EA/EB = 0.92, EC/EB = 1.13, α=28°, β=25°. These parameters are within the range of the biometric parameters given by (*) and (**), parameters which had been evaluated for the set of the nine heads Torlonia, Pisa, Berlin, Parma, Firenze, Pio-Clementino (Roma), Tusculum, Pantelleria, and Farnese. These nine heads are representing Julius Caesar for sure. Therefore we can argue that, in the framework of this analysis, also the Arles bust can be considered as representing Caesar, because it has biometric parameters in agreements with those of the given set.

References

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