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THE ALLEGED SHOES OF MICHELANGELO BUONARROTI: ANTHROPOMETRICAL CONSIDERATIONS

Michelangelo Buonarroti (1475–1564) is regarded as one of the fundamental figures of the Italian Renaissance. Several hypotheses have been made on his health ranging from goiter to lead poisoning (Lazzeri *et al.* 2016a, Montes-Santiago 2013). In recent years, it has also been suggested that, as a result of his arduous and long life, his hands were severely affected by chronic arthritis in the last phase of his life (Lazzeri *et al.* 2016b). These interpretative proposals consist of paleopathographical diagnoses based on indirect sources, such as portraits of the artist or his own writings (Galassi *et al.* 2016, 2017). Until now no study has taken into account direct biological traces left by Michelangelo himself.

The *Casa Buonarroti Museum* in Florence houses what might be some of his few available tracks. Here we present an anthropometrical analysis of "Michelangelo's alleged shoes" (It. *babbucce*). They consist of two matching shoes (left and right) and one loose right slipper (all made of leather, *Figure 1*) which were found in the house and musealized [Inv. 1859, n. 198; Inv. 1896, n. 442], although originally there also used to be another slipper that was stolen on 14th January 1873 (Procacci 1965). The male shoes have

been traditionally regarded as Michelangelo's, and indeed their style corresponds to that of the historical period in which he lived [personal communication by E. Tosi Brandi], even though radiocarbon dating has not been performed on them on account of preservation concerns. As a result, no conclusion can be drawn on their authenticity and other possibilities must be considered including them having belonged to other family members or descendants of his.

Notwithstanding, it is possible to make some anthropometrical considerations based on their wearer's stature. By applying the Uhrová *et al.* formulae to estimate stature from foot dimensions using linear and multiple regression equations (Uhrová *et al.* 2013) and by considering foot length and breadth respectively the length and breadth of the shoes taken with a sliding caliper (Martin type), the results are as follows:

- a) matched left shoe = 158.2 cm ± 4.765 cm (SD)
- b) matched right shoe = 162.7 cm ± 4.652 cm (SD)
- c) matched left + matched right shoes = 161.4 cm ± 4.668 cm (SD)
- d) unmatched right slipper = 159.2 cm ± 4.652 cm (SD)

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The average of the first three measurements (a-c) yields 160.7 cm. The average of all the results (a-d) is 160.3 cm.

The dimensions of the two shoes and the single slipper are similar. This coincidence is reflected by the reconstructed statures, thus proving that the shoes could actually belong to the same person, at least based on the anthropometrical results. In addition, as reported in the specialized literature (Cardoso, Gomes 2008, Giannecchini, Moggi-Cecchi 2008, the latter authors specifically for Central Italy), such an average is compatible with the mean for a chronological period that spans from the Middle Ages through the Renaissance. Somehow this also confirms the words of Michelangelo's biographer, Giorgio Vasari (1511-1574), who wrote that his stature was average: «Fu di statura mediocre, nelle spalle largo, ma ben proporzionato con tutto il resto del corpo» (Vasari, 1832-1838) [«Of stature he is as follows: held middling; broad in the shoulders; the rest of the body somewhat slender in proportion» - translation by J. A. Symmonds.

Macmillan: London, 1901], the word "mediocre" being read in its Latin-derived meaning "average, mean".

Although no absolute certainty exists whether these shoes were worn by Michelangelo, this multidisciplinary approach stresses once again the importance of using direct biological information whenever possible, complementing them, if viable, with archival and historical data.

An exhumation inclusive of a full anthropological and paleopathological analysis of Michelangelo's remains which might at last verify the accuracy of several hypotheses on his bodily features and pathological traits is, nonetheless, challenged by ethical aspects and opportunity motivations, making it unrealistic in the near future. However, the possibility to identify some of the biological vestiges left behind by the great artist - as is the case with our ongoing study on his fingerprints - could perhaps let us learn more about the biological aspects of this genius without diminishing his artistic glory.

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REFERENCES

- CARDOSO, H. F. V., GOMES, J. E., 2009: Trends in Adult Stature of Peoples Who Inhabited the Modern Portuguese Territory from the Mesolithic to the Late 20th Century. *International Journal of Osteoarchaeology* 19, 6: 711-725. DOI: 10.1002/oa.991
- GALASSI, F. M., BIANUCCI, R., GORINI, G., PAGANOTTI, G. M., HABICHT M. E., RÜHLI, F. J., 2016: The sudden death of Alaric I (c. 370-410AD), the vanquisher of Rome: A tale of malaria and lacking



FIGURE 1. Michelangelo's alleged shoes and slipper (authors' own photo).

- immunity. *European Journal of Internal Medicine* 31: 84–87.
DOI: 10.1016/j.ejim.2016.02.020
- GALASSI, F. M., HABICHT, M. E., RÜHLI, F. J., 2017: Poliomyelitis in Ancient Egypt? *Neurological Sciences* 38, 2: 375. DOI: 10.1007/s10072-016-2720-9
- GIANNECCHINI, M., MOGGI-CECCHI, J., 2008: Stature in Archaeological Samples from Central Italy: Methodological Issues and Diachronic Changes. *American Journal of Physical Anthropology* 135, 3: 284–292.
DOI: 10.1002/ajpa.20742
- LAZZERI, D., LIPPI, D., CASTELLO, M. F., WEISZ, G. M., 2016a: The Mystery of Michelangelo Buonarroti's Goiter. *Rambam Maimonides Medical Journal* 7, 1: e0010.
DOI: 10.5041/RMMJ.10237
- LAZZERI, D., CASTELLO, M. F., MATUCCI-CERINIC, M., LIPPI, D., WEISZ, G. M., 2016b: Osteoarthritis in the Hands of Michelangelo Buonarroti. *Journal of the Royal Society of Medicine* 109, 5: 180–183.
DOI: 10.1177/0141076816630502
- MONTES-SANTIAGO, J., 2013: The Lead-poisoned Genius: Saturnism in Famous Artists Across Five Centuries. *Progress in Brain Research* 203: 223–240.
DOI: 10.1016/B978-0-444-62730-8.00009-8
- PROCACCI, U., 1965: *La Casa Buonarroti a Firenze*. Electa: Milano.
- UHROVÁ, P., BEŇUŠ, R., MASNICOVÁ, S., 2013: Stature Estimation from Various Foot Dimensions Among Slovak Population. *Journal of Forensic Sciences* 58, 2: 448–451.
DOI: 10.1111/1556-4029.12059
- VASARI, G., 1832–1838: *Le opere di Giorgio Vasari. Pittore e Architetto Aretino. Parte Seconda., David Passigli e Soci*: Firenze.

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