

In the style of Leonardo da Vinci

Flora 16th century or 19th century

Wax. Inv. Nr. 5951

It could be said that the sperm whale is responsible for the dispute over the authenticity of the *Flora Bust*.

At the beginning of the 20th century, Wilhelm Bode left his mark on the collections on Museum Island. As an internationally recognised art historian he was esteemed for his splendid selection of acquisitions of Italian Renaissance sculpture.

Who wouldn't want to be able to display a work of the eminent artist Leonardo da Vinci in his or her museum? Did Bode allow himself to be deceived by this wish when he acquired the *Flora Bust* in England in 1909? For him, it was clearly a work by Leonardo or from his immediate artistic circle – and he stood by that judgment until his death. Even his successors in the Sculpture Collection maintained the attribution. Who would want to contradict the great Bode?

Shortly after the acquisition, it became known in London that the sculptor Richard Cockle Lucas (1800–1883) supposedly had created the bust around 1846. In 1910 his son, Albrecht Dürer Lucas, testified under oath in court that his father made the bust. Art historical publications as well as the worldwide press inflamed what was known as the *Flora Controversy*. Bode's scholarly reputation started to unravel.

Already in 1909, reservations about the age of the bust were expressed in Berlin, based on scientific examinations. As a method to determine age, radiocarbon dating (C14 analysis) was utilised twice in the last 40 years (in 1983 and 2019) – both times with the same result: *Flora* was created in the middle of the 19th century. But did the scientific analyses correctly take into consideration all the circumstances?

Examinations of other wax objects by Richard Cockle Lucas led to the same conclusion as that for the *Flora*. Theoretically, he could have re-used a historical wax for the bust. However, that would have made the wax older and does not agree with the dating result. Consequently, Lucas did not acquire a bust from the Renaissance era in order to just work or freshly design the surface.



The Bust of Flora in its 1995 condition (unchanged to this day) © Staatliche Museen zu Berlin, Skulpturensammlung und Museum für Byzantinische Kunst / Jörg P. Anders

The wax making up the bust contains a large amount of spermaceti. This soft and spongy mass is obtained from the head of a sperm whale. The C14 dating is thus influenced by whether the material found itself under the influence of the atmosphere or the ocean. Therefore, what is known as the deep-sea effect must be taken into account in the calculation of the correct age. The content of the C14 isotope in the ocean appears older compared to that in the atmosphere, since the exchange of carbon is slower. What is the relationship between time and amount for diving, holding the breath, and taking in nourishment under water? Because diet also has an effect on the C14 isotope content in the whale's body. Even whether it lived near glacier water or icebergs can play a decisive role.

Depending on whether the deep-sea effect on the C14 analysis is correctly calculated, the spermaceti-rich *Flora Bust* could be either 170 or 470 years old. These complexities keep the Leonardo myth alive.