

*Letter to the Editor*

## **The story of the supposed skull of Pliny, the Elder and scientist from ancient Rome that appreciated cosmetics**

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People interested in the history of cosmetic products throughout the ages can find in this article some unknown news to deepen the knowledge of the Roman philosopher and naturalist Pliny, the Elder. In the encyclopedic *Naturalis Historia*, he described various plants and minerals used to prepare cosmetic perfumes, creams and powders, reporting information on their social and cultural aspects (Fig. 1) (1-4).



**Fig. 1.** *Histories Naturelle. Pline l'Ancien* written by Abbay de Saint, Vincent, Le Mans, France 12th Century.

This news can motivate a visit in Rome to the interesting Museum of History of Healthcare Art that could be made to celebrate the bi-millennium of the writer's birth. On this occasion, it will also be possible to see the skull preserved in the museum, which a recent study has confirmed probably belongs to Pliny the Elder (Fig. 2).



**Fig. 2.** *Skull and part of the gladius of Pliny, the Elder, preserved in the Museum of History of Healthcare Art in Rome.*

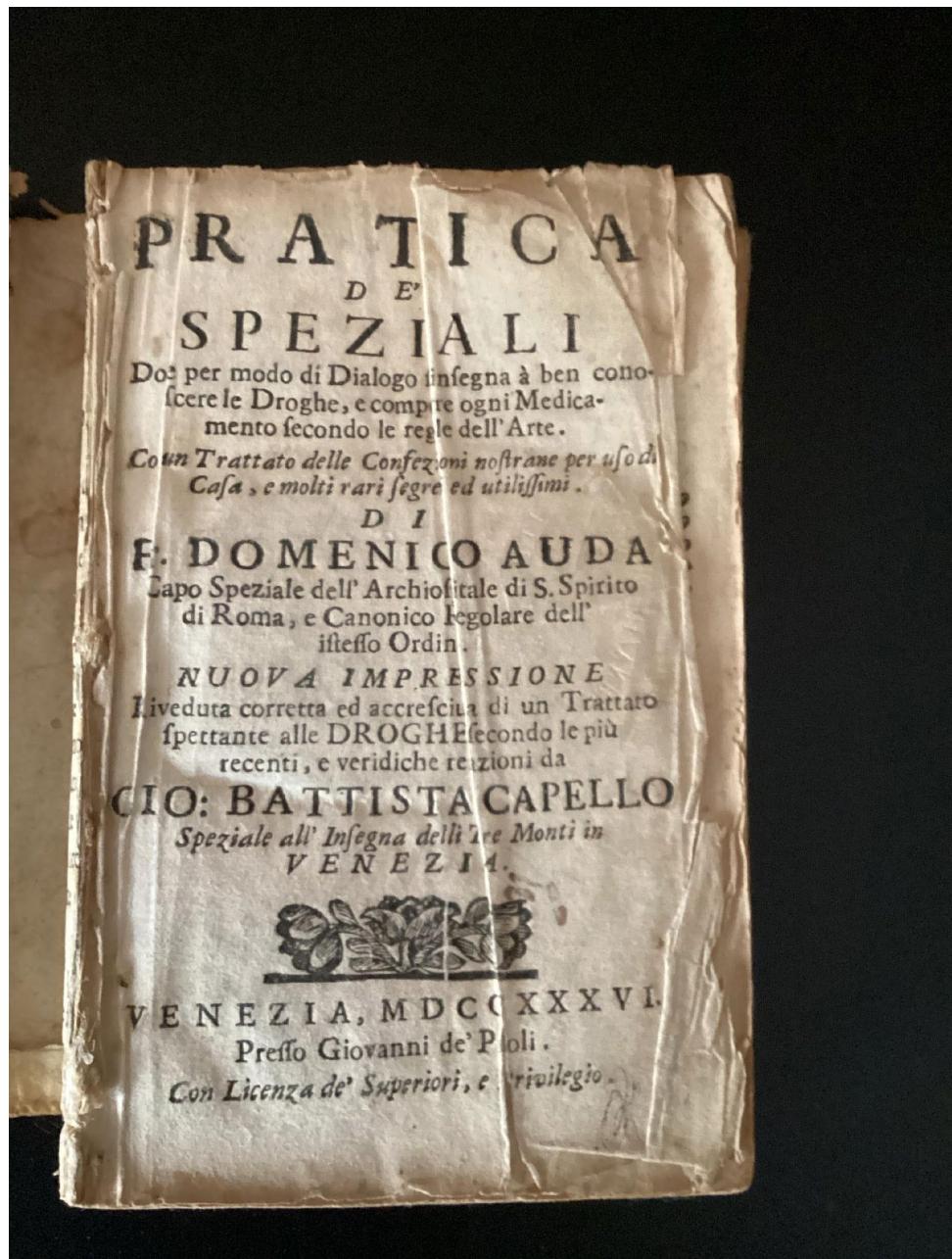
Before reporting the compelling story regarding this precious cultural discovery, it is interesting to have a minimum awareness of how the scientist-writer accurately investigated cosmetic products. Pliny documented their use by different cultures, underlining how the ingredients were made and used differently (1). In the Egyptians, cosmetics were made with various plants and animal fats, while in other cultures, such as the Greek ones, they were produced with various minerals and metals. The use of cosmetics was often associated with rituals and religious ceremonies but with different purposes: for the Egyptians, rituals and cosmetic ceremonies were used to honour the gods and other divine beings; for the Greeks and Romans, they expressed reverence and respect for the gods. Pliny noted how cosmetics were popular with men and women for different purposes; women used different oils, creams and perfumes for the body, while men used the oils and perfumes for beard and hair care (1). The use of cosmetics was associated with social status and wealth, especially in the choice of components, always determined by culture; for example, in Roman culture, the use of the sack was popular among the wealthy classes, while in Egyptian culture, among the popular ones.

The research on the cosmetics of Pliny, the Elder also revealed a great deal of information about processes and methods used to produce and utilize the products. First, ingredients for the preparation of cosmetics had to be chosen with care, especially to avoid those with potential toxicity. The preparation consisted of the fine grinding of the substances that were then mixed proportionally, some with water and others with oil. Next, he indicated those that had to be heated or cooled, which should be applied directly to the skin or coated by a brush or cloth.

Pliny also advised the necessary limitation because excessive use of cosmetics could cause skin irritation and other health problems. Specifically, he recommended avoiding cosmetic products during pregnancy and lactation because of the possible toxicity phenomena caused by some ingredients for the developing baby.

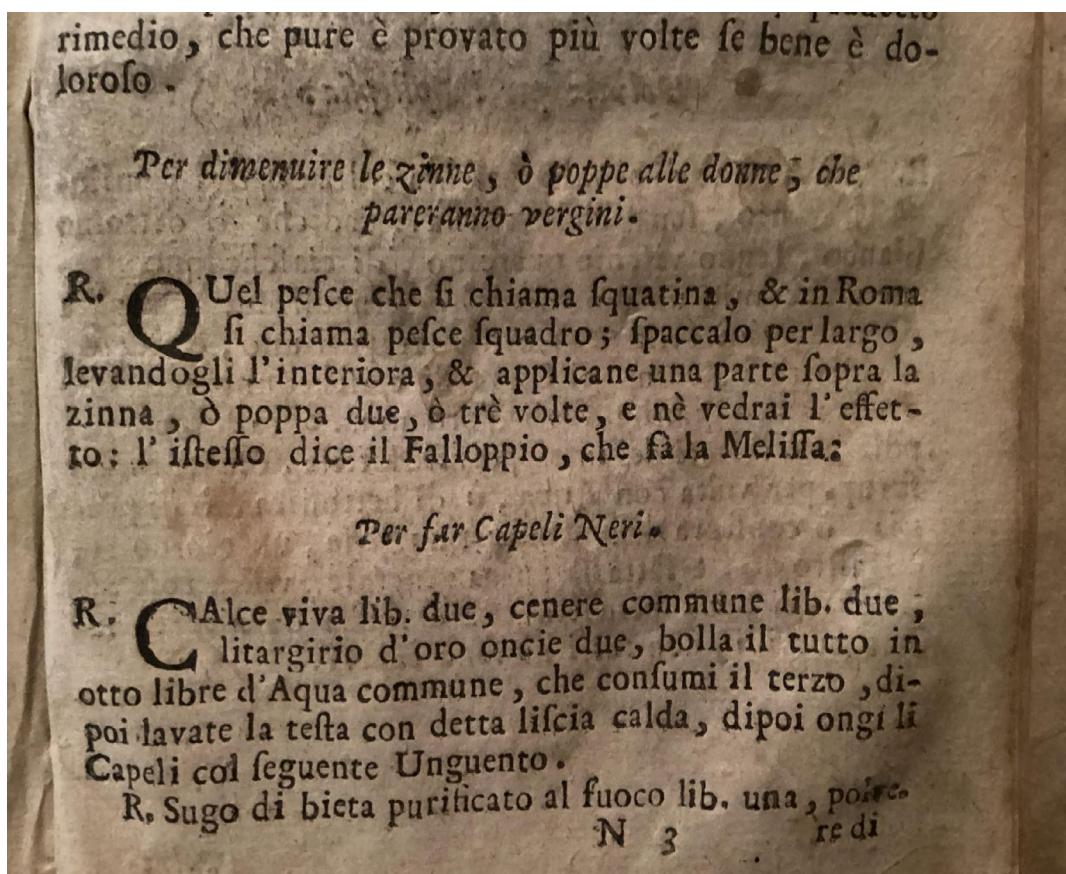
Overall, Pliny the Elder's investigation of cosmetics provided valuable insight according to the Romans' use in the ancient world. His instructions revealed a great deal of information about ingredients and processes used for creating cosmetics and their potential associated risks.

It is interesting to see how the same potential production and consumption of cosmetic products, going on for centuries, is still in use today with the increasing use of natural ingredients. Therefore, we are reporting two cosmetic formulations using a fish (animal) or chemicals written in the year 1736 by the monk Domenico Auda, Pharmacist (*Speziale*) in the S. Spirito hospital in Rome (Fig. 3) (5).



**Fig. 3.** The frontispiece of the ancient book written by the monk Domenico Auda in 1736.

In an example, we report prescriptions considered beneficial to obtain the re-growth of hair loss or to reduce the breasts of women so that they appear virgins (*deminuire le zinne o poppe alle donne che pareranno vergini*) (Fig. 4) (6).



**Fig. 4.** Ancient prescription for breasts and hair.

#### *Prescription for breasts*

The prescription uses a fish called “*squatina*” (squared fish), which is cut in half across the middle, removed of its viscera, and each part applied over each breast two or three times daily to see the effect. Fallopius says the same thing (5, 6).

#### *Prescription for hair*

To prevent hair from becoming grey (*Per far capelli neri*). Wash hair in dog’s (bitch) milk twice a week, and they will never be grey. They will remain the same colour even in old age (Fig. 4) (5, 6).

The supposed skull of Pliny the Elder is one of the most suggestive finds exhibited at the Museum of History of Healthcare Art (Fig. 5).



**Fig. 5.** Shop window of some findings reported in the Museum of History of Healthcare Art.

However, on the one hand, there was some scepticism for the attribution of this find; on the other hand, it was contrasted by enthusiasm and hope, considering it the only preserved anatomical rest of a historical character of ancient Rome. How this dispute was born and developed tells us the story of the discovery and the path that led this skeletal material to the Museum of History of Healthcare Art in Rome into the ancient and historical Saint Spirito hospital.

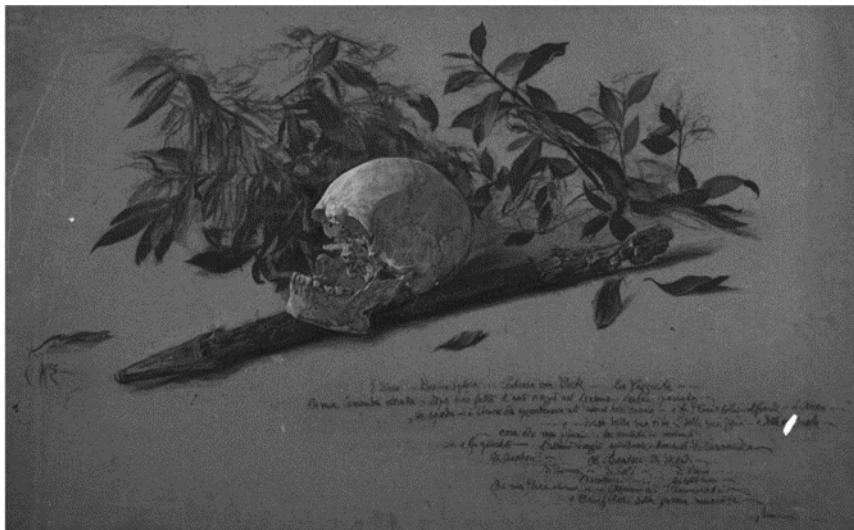
On 20 September 1900, the engineer Gennaro Matrone, among other things, an amateur archaeologist, during the excavations of one of his funds in the Bottaro district of the Municipality of Boscotrecase, which had been flooded, found numerous submerged skeletons, about seventy in number, one of which was in a higher position with its head and chest out of the water (7). The skeleton, lying on its back, wore a gold necklace around its neck, two bracelets, and three solid gold rings with a gladius at its side (7) (Fig. 6).



**Fig. 6.** Some of the golden jewels recovered in Boscotrease.

The exact location of the skeletons and objects could not be photographed because of the water invading the base of the excavations in which they were immersed. Only one skeleton was in a higher position, so it had its head and chest out of the water, in a lying position with its head reclined and leaning against a pillar (Fig 7).

This skeleton stretched out on the back, had the skull entirely in the hardened ash layer, while the rest of the bones lay buried in the ash and lapilli. The bones of a giant, 2 meters and 10 centimeters high, were noticed two meters away.



**Fig. 7. Supposed skull of Pliny the Elder with its gladius.**

But how did the conviction arise that this ornament-laden skeleton belonged to Pliny, the Elder? The rumor about the excavations did not escape Mr. Edouard Jammy, President of the Agricultural Committee of the district, honorary consul, and deputy Consul of France in Castellammare di Stabia. He, by old information, knew that a Roman Liburnian had been discovered a hundred yards from those excavations in 1858. Consequently, the Consul deduced that the skeleton could be of Pliny, the Elder, due to the presence of the Roman gladius and the ornaments. The distinguished naturalist published the hypothesis in the *Corriere di Napoli* of 16 November 1901. This assumption fascinated many people, among whom a certain engineer Mariano Cannizzaro published a small essay entitled *The Skull of Pliny* in London. At the same time, this hypothesis was considered fantasy by some archaeologists, first of all Giuseppe Cosenza, who published another essay in 1902 with an explicit title: *Around the alleged discovery of Pliny the Elder* (8).

Although Matrone did not dare to propose such an identification, he nevertheless suggested to the museum administration officials that the strange, richly decorated skeleton might have belonged to an important personage, perhaps a Roman notable. The possibility was immediately rejected with sufficiency and derision because certainly dictated by his unacknowledged historical culture. On the other hand, the administration officials showed no interest in these excavations, so the findings had no scientific importance. Consequently, the engineer Matrone was left free to dispose of the found objects, claiming that they belonged to him since they had been found in his soil.

Matrone wasted no time and sold everything to an invaluable dealer in Naples so that the collection, which ended up in an auction catalogue, was probably bought by the Rothschild Company, ending up in the United State of America. Thus by a trafficker of precious things, the collection ended up from Naples to the auction catalog "Objects Antiques - Collection de M. Guilhou" described by Arthur Sambon in 1905 and soon after to Rothschild.

The lack of interest shown in those excavations and the need to reactivate the agricultural fund suggested to Matrone to dig up all those skeletons, don't forgetting what had been hypothesized to belong to the Roman admiral' cranial jaw, deprived of its jewels. Evidently, these finds were of no interest to any buyer for their macabre character, and together with the gladius, they were deposited with an antiquarian in Naples. Thus they were found by Alessandro Tomassi, a refined collector and expert in the Roman traditions who, knowing the hypothesis belonging to Pliny, the Elder, acquired the old skull convinced of the veracity of its origin. Thus he submitted it to the endorsement of distinguished archaeological experts. obtaining no real guarantee of

authenticity. However, as suggested by a painting of Cecile Exacouts, who portrayed both skull and gladius in work found at the Gallery of Modern Art in Rome entitled "Still Life, skull and sword of Pliny, the Elder", Tomassi turned into a famous seer Madame Sylvia (countess Bianca von Beck).

The seer received him in a small hotel room with no trace of symbols, furnishings, objects, attitudes, or pragmatics with such worshippers. On the walls of the room, there were a few photographs, among which that of Pius XII when he was still Secretary of State and of whom she predicted the election to the Pontificate. Although the countess believed to possess median qualities, she didn't use them to live, being deeply religious. Thus she did not want to be asked about the dead, even though she often saw missing people in the form of nightmares at night.

However, convinced of the person's honesty, Tomassi showed her the skull contained in a small glass urn: the seer felt an instant of profound unease and begged to close the lid of the urn immediately, stating that the human remains emanated such powerful radiation that she felt the same sense of oppression and anguish that must have preceded the subject's death. Upon examination of the gladius, the countess reported the same impression but in a less violent form, concluding that both skull and weapon belonged unquestionably to the same person: Pliny, the Elder. She added that the gladius had given death several times but not to Pliny, to whom it had been in some of his wandering around the world and probably in Egypt. Consequently, Suetonius' version that Pliny, to shorten his suffering, had himself killed by a slave did not answer the truth. However, Tomassi gave no weight to the Countess von Beck's opinion but had to agree that the arguments put forward by Matrone were certainly relevant, especially after a more detailed study of the restored gladius had highlighted its preciousness, which had largely escaped Matrone himself. Tomassi, considering it appropriate not to disperse gladius and skulls, keeping them in some museum, donated them to the Museum of History of Healthcare Art through prof Pietro Capparoni. There are no documents on the matter, but, knowing Pietro Capparoni, the founder of the museum, since it was a matter of human remains, Alessandro Tomassi thought that since it was inside a hospital, this museum was the most appropriate and respectful place for this unusual skull.

Thus the skull was placed in the Museum room where anatomo-pathological exhibits were displayed, relegating and believing it to Pliny's curiosity. This has led to a relative disregard for its historical origin, allowing the gladius, in particular, to deteriorate over time until the Study and Research Centre of the Academy of History of Healthcare Art accepted the invitation of Andrea Cionci, cultural investigative journalist from *La Stampa*, to go on by a scientific anthropological study. The study had to document the likelihood that the skeletal remained belonged to an individual of Pliny's time and age, leaving it to the historical judgment of the attribution.

The results, albeit cursory, concluded that the shell certainly belonged to a male Roman citizen, gender and origin confirmed by DNA testing. The average age at death was fifty, but a more accurate figure reported it at fifty-six. Pliny died at fifty-six. On the other hand, the examination of the mandible' DNA provided information that it belonged to a negroid subject of gigantic size, coming from eastern Algeria, corresponding to Numidia. This result also corroborates the rigour of Matrone's findings, who identified next to the supposed Pliny an individual 2.10 meters tall. The result would authorize the assumption that he is the slave Suetonius cited as the author of Pliny's request to be killed by its gladius. Finally, the Biology Department of "Tor Vergata" University in Rome, considering the above-mentioned studies, decided to go on with a further research study aimed at realizing a three-dimensional cranial and facial digital reconstruction using the more recent available methodologies. The obtained results will be presented on the occasion of the forthcoming inauguration of the 2023-Academic Year of the Academy of History of Healthcare Art for celebrating the second millennium of Pliny the Elder's birth.

## AUTHOR CONTRIBUTIONS

Dea of manuscript, writing-original draft, writing-review, editing, and supervision PM and PV. Both author has read and agree to the publishing version of the manuscript.

## CONFLICT OF INTEREST

The authors declare no conflict of interest.

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