Original Article

Four facets of Antonio Maria Valsalva: A man's life in a work of art

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Abstract

Antonio Maria Valsalva was a renowned anatomist, physiologist, and surgeon who made significant contributions to the field of science, particularly in otology. A monument dedicated to him is located on the wall of the Archiginnasio Palace in Bologna, indicating the high regard in which he was held by his peers. The aim of this study is to analyze the monument, revealing the hidden messages about the scientist. In our analysis of the monument dedicated to Valsalva, we also conducted research on Valsalva's life and contributions to the field of science, with a focus on otology. Our study revealed that the fresco paints a comprehensive picture of Valsalva and his achievements as one of the leading figures in the history of medicine and otology. This is particularly conveyed by the four putti surrounding the fresco, which symbolize various aspects of Valsalva's extraordinary career and impact on the field of science. The monument dedicated to Antonio Maria Valsalva serves as a lasting tribute to his legacy and contributions to the field of Science.

Keywords: Anatomist, Antonio Maria Valsalva, otology, physiologist, portrait, surgeon

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Submitted: 06-Jun-2024 **Accepted:** 14-Jun-2024 **Published:** 26-Jul-2024

INTRODUCTION

On the wall of the Archiginnasio Palace in Bologna, a commemorative marble plaque pays tribute to the life of Antonio Maria Valsalva. It was created by Angelo Gabriello Pio (1690–1770) in 1723, an Italian sculptor of the Baroque School.

The memorial consists of a head and shoulders portrait of the scientist and an inscribed rectangular plaque (with all the customary flowery rhetoric) in Carrara marble. They are surrounded by a fresco [Figure 1].[1] The partly abbreviated Latin inscription below the likeness shows the respect in which he was held among his peers:

> "*By the Grace of God, the two Universities of Arts have placed in this most prominent position the marble portrait of Antonio Maria Valsalva of Imola, a most noble philosopher, physician, surgeon and anatomist in order that the face of one, whose name, writings and discoveries will be well known, should not be unknown to future generations.*"

It goes on to say:

Access this article online	
Quick Response Code:	Website: https://journals.lww.com/hbcm
	DOI: 10.4103/HBC.HBC_17_24

How to cite this article: Caragli V, Cunsolo E, Riddington YJ, Mudry A. Four facets of Antonio Maria Valsalva: A man's life in a work of art. Hear Balance Commun 2024;22:52-6.

Figure 1: Mural monument dedicated to Antonio Maria Valsalva by Angelo Pio

> "*He died on the 2nd February 1723, aged 57 years and 15 days. In this University, in which he was also an honorary lecturer in anatomy, he was the first person to be appointed as anatomical prosector and demonstrator, a post he held for 26 years.*"

The Baroque style of the time is highly ornate, characterized by extravagant curving lines. It evokes a sense of grandeur. The classical triumphal wreath surrounding the medallion is redolent of ancient Rome.

Unfortunately, the painter of the fresco surrounding the marble plaque remains unknown. Neither can any information about him be gleaned from the modified engraved reproduction made by Francesco Zucchi on the title page of the first edition of Morgagni's 1741 edited reprint of Valsalva Works[1] [Figure 2].

Antonio Maria Valsalva was born and grew up in 1666 in Imola. He completed his early studies in the humanities, mathematics, and natural sciences with the Jesuits, during which time he was inspired by anatomy and physiology. As a teenager, he moved to Bologna University, where he graduated in philosophy and medicine in 1687.

It soon became clear that Valsalva was a highly talented and intellectually vibrant scientist.[2] He made significant contributions to otology, describing for the first time the structure of the ear and distinguishing between the inner, middle, and outer ear. He was, of course, responsible for the introduction into clinical practice of the diagnostic clinical test known as the "Valsalva maneuver" (forced expiration maneuver against a closed glottis).[3,4]

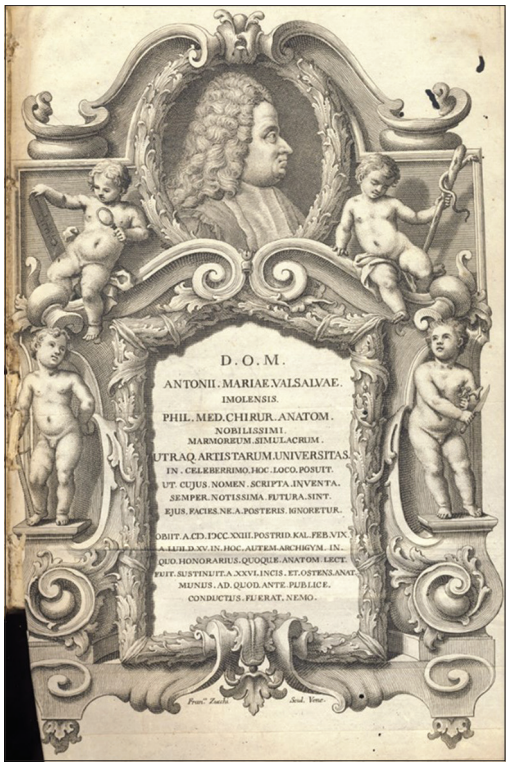

Figure 2: The engraver of Antonio Maria Valsalva by Francesco Zucchi

Valsalva collaborated with Giambattista Morgagni (1682–1771), a young and promising student who shared his mentor's passion for knowledge.[5] Valsalva worked for more than 16 years (initially alone and later assisted by Morgagni) in the meticulous dissection of around 1000 heads to produce the treatise "*De Aure Humana,*"[1] in which they presented their findings on the anatomy of the ear.[6]

This work was immediately hailed as Valsalva's "*Opus Vitae*," and it is still regarded by many contemporary otologists as a seminal work that laid the conceptual foundations of modern ear pathophysiology.[7] The "*De Aure Humana"* treatise [Figures 2 and 3] was first published in Bologna in 1704, and later, several subsequent editions were released. After Valsalva's death, Morgagni played a crucial role in promoting and editing his texts, finally producing a posthumous edition published in Venice in 1740, of all of Valsalva's work.

When Morgagni revised the "*Opera*," he retained the original "print set" of the original 1704 "*de Aure Humana tractatus"* and dedicated it to the scientist, describing him as "the most famous man."

Valsalva's skill and knowledge had been long recognized and appreciated. He was not only a physician and surgeon in the hospitals of Bologna (especially at Sant'Orsola), but also Valsalva administrated these institutions. He was also

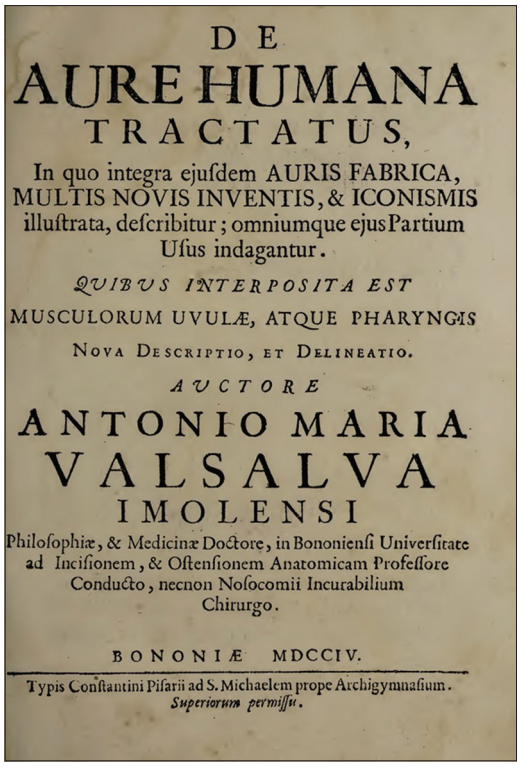
DE
AURE HUMANA
TRACTATUS,
In quo integra ejusdem AURIS FABRICA, MULTIS NOVIS INVENTIS, & ICONISMIS illustrata, describitur; omniumque ejus Partium Usus indagantur.
QUIBUS INTERPOSITA EST
MUSCULORUM UVULÆ, ATQUE PHARYNGIS
Nova Descriptio, et Delineatio.
AUCTORE
ANTONIO MARIA
VALSALVA
IMOLENSI
Philosophiæ, & Medicinæ Doctore, in Bononiensi Universitate ad Incisionem, & Ostensionem Anatomicam Professore Conducto, necnon Nosocomii Incurabilium Chirurgo.
BONONIÆ MDCCIV.
Typis Constantini Pisarii ad S. Michaelem prope Archigymnasium. *Superiorum permissu.*

Figure 3: "De Aure Humana" treatise, 1704 edition

appointed at the university as an anatomical engraver in 1697 and as the newly established lecturer in anatomy and dissection in 1705. He held these (salaried) positions until his sudden death from apoplexy on February 2, 1723.[8,9]

This study aims to present, for the first time to our knowledge, a commemorative portrait in memory of Valsalva commissioned by his colleagues after his death.[10,11]

We consulted the PubMed database and examined texts (assisted by philologists) from books preserved in the Bologna Archiginnasio Library. Our reference terms were "Antonio Maria Valsalva" and "portrait." Limitations of this study included the possibility of unindexed texts on the topic and the selection, preservation, and transmission of documents and sources over time.

RESULTS

The monument consists of a marble medallion framing a portrait of Valsalva, the fresco that surrounds it and a commemorative epitaph of the scientist. The sculpture is made in the 18th-century Italian Baroque style. The scientist is depicted in profile with an austere and solemn air, wearing elegant attire and a wide ruff, typical of the time. The frame of the portrait is decorated with acanthus leaves. The marble plaque is surrounded by a fresco illustrating four allegorical nude infant boys (usually called "*putti*") and

Figure 4: Allegory of Antonio Maria Valsalva, the Anatomist

arranged around the central text of the monument. These putti (singular, *putto*) are a common feature of Baroque art; they are usually winged (though these are not) and commonly play the role of angelic spirits or sometimes act as instruments of Profane Love.

The putto on the bottom left-hand corner of the fresco is depicted gripping a cutting tool or saw. The putti in the engraving on the title page of Morgani's edition differ slightly from the fresco. Here, Figure 4 is shown standing, rather than reclining among the acanthus leaves.

The individual in the top left-hand corner, another putto holds a magnifying glass in his left hand and a large thermometer in the right. The gradation on the thermometer can be seen to show the Celsius centigrade scale, introduced by the Swedish astronomer just a few years previously in 1742 [Figure 5].

Moving clockwise to the top right putto, he is holding the staff of Aesculapius, the ancient Greek deity of medicine, healing, and snakes [Figure 6]. In these two cases, the engraver faithfully reproduces the fresco images. The boy down on the right, however, again differs from the fresco and is standing and gazing upward. He is shown holding a knife in his right hand and clasping a three-dimensional model of the ear in his left [Figure 7].[12]

The solemn epitaph is engraved in a simple architectural niche on a bare brick wall with a frame made of carved coils and leafy shoots.

DISCUSSION

The marble portrait

Angelo Gabriello Pio sculpted the portrait and frame in the Bolognese Baroque style.[13] The profile of the scientist portrays an authoritative and commanding figure

Figure 5: Allegory of Antonio Maria Valsalva, the Philosopher (Physiologist)

Figure 6: Allegory of Antonio Maria Valsalva, the physician

Figure 7: Allegory of Antonio Maria Valsalva, the otology surgeon

of Valsalva, clean-shaven and wearing a periwig, a fashion icon that was integral to the upper echelons of 18th-century society. The portrait frame is decorated with acanthus leaves, a symbol of prestige. Pio had evidently departed from his usual contemporary Rococo style, using the earlier, more conservative Baroque approach to express a more distinguished image and complement the elegance of the Archiginnasio Palace.[6]

The fresco

It is known that Pio did not paint the fresco surrounding the marble plaque and sadly the name of the painter remains unknown. Indeed, the poor condition, in which the fresco was initially found, did not lead to any definite attribution of the artist. Morgagni chose an engraving by the famous Venetian engraver Francesco Zucchi (1692–1764)[11] to depict the scientist, but sadly neither does this provide any more information about the painter of the fresco. However, it is now known that Angelo Pio frequently collaborated with the fresco painters, Vittorio Bigani and Francesco Monti, and so it is now believed that they might have completed the commissioned work.[14]

The four putti

The most interesting and esoteric information about the scientist to be found in the monument is not contained in the portrait itself but by the surrounding fresco and its four putti. These naked figures of infants were often used in the past as allegorical or symbolic of something. Here, in this monument to Valsalva, they are the key figures to the understanding of the fresco. They are symbols of Valsalva's prestige and high standing in society. The four putti represent the main interests and achievements in Valsalva's life. He was an anatomist, a physiologist, a clinical otologist, and a surgeon.

The putto with the saw represents an anatomist (and also a surgeon). The saw was necessary for 18th-century anatomical dissection and surgical practice.[15,16]

The magnifying glass and the Celsius thermometer were introduced to the scientific community in 1609[17] and 1742, respectively.[18] We can assume that Valsalva was pleased to welcome the use of these innovative tools in scientific practice. They are also probably symbolic of scientific progress and are the allegories of Valsalva, the physiologist and the diagnostician.

The putto on the top right corner clearly represents Valsalva's standing in society. He bears the staff of Aesculapius, the classical symbol of medical practice. The Aesculapian staff, at that time, embodied not only the prestigious profession of a physician but also his ethical responsibility and the noble pursuit of healing and care.[19]

To complete this mini-biography, and still proceeding in the symbolic direction of natural time, comes the most interesting of the little quartet. Only after attaining competence in general medicine should specialization follow. The last putto is the allegory of an otologist. One hand holds a straight scalpel used in essential otological surgical operations;[20] the other grasps the model of a complete human ear, drawn just as he described in his ear treatise [Figures 1 and 2]. It underlines the important concept of Valsalva that the ear must be anatomically studied as a whole. As he wrote in his treatise:

> "*In leaving it entirely as it is, and not separating any part from its place even if very small.*"[21]

Indeed, most physicians remember Valsalva for his eponymous "*maneuver*." This is a very good example of considering the whole of the tympanic cleft rather than merely the middle ear cavity.

It would also appear that the allegorical putti were not arranged randomly but reproduced in a precise sequence. Students of medicine start by learning anatomy and then proceed to physiology. Only when competent in these two subjects, can one become a competent physician. Furthermore, it is only when one is confident in general medicine that should one embark on specialization.

CONCLUSION

This paper has discovered the esoteric meaning of Valsalva's iconic monument. The fresco paints a full picture of Valsalva and his achievements as one of the leading figures in the history of otology. The marble portrait might be a faithful representation of the man, but it is the symbolism in the fresco which uncovers much almost hidden important information about his great contributions as a philosopher, physician, surgeon, and anatomist.

The epitaph entreats future generations not to forget the great Valsalva, and indeed, the unique artwork has brought together all the historic accomplishments of his life in this public monument in the Archiginnasio Palace in Bologna.

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

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