



Girolamo Fabrici d'Acquapendente (1533-1619)

The Dawn of Color in Anatomy

(History of Medicine)

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Abstract

This article examines Girolamo Fabrici d'Acquapendente (1533–1619) and his pioneering *tabulae pictae* (“painted anatomical tables”). As professor of anatomy at Padua and mentor to William Harvey (1578-1657), Fabrici advanced embryology and venous anatomy, laying foundations for Harvey’s discovery of blood circulation. His collection of over 200 hand-painted plates, preserved in the Marciana Library, introduced color as a vital tool for anatomical teaching, surpassing the monochrome engravings of Vesalius in lifelike realism. The tables reveal striking attention to tissue qualities and three-dimensionality, particularly in the neuroanatomical series *De Anatomia Capitis Cerebri Nervorum*. Though no explanatory text survives, indirect testimonies highlight Fabrici’s reverence for the brain as both a scientific and metaphysical marvel. Rediscovered in the twentieth century after centuries of obscurity, the *tabulae pictae* affirm Fabrici’s enduring legacy at the intersection of anatomy, art, and philosophy.

Keywords: *Tabulae Pictae*, Fabrici d'Acquapendente, nervous system, anatomy, manuscript

Introduction

The title *The Dawn of Color in Anatomy* may appear somewhat romantic, yet it accurately reflects a relevant historical event. It evokes the moment in which anatomical representation transcended mere line and form to embrace the expressive and naturalistic power of color. The focus of this study is the *tabulae pictae*, the “painted anatomical tables,” and their author, Girolamo Fabrici d’Acquapendente (1533–1619).

Before addressing these works, it is necessary to outline briefly who Fabrici was and his place within the genealogy of the great anatomists of sixteenth-century Padua.



Figure 1. Portrait of Girolamo Fabrici d’Acquapendente (1533–1619).

In that illustrious lineage, Fabrici (Figure 1) occupies the fourth position, following Andreas Vesalius (1514–1564), Realdo Colombo (1516–1559) - the first to describe the pulmonary circulation - and Gabriele Falloppio (1523–1562), celebrated for his numerous neurological contributions and for the anatomical structure that bears his name, the Fallopian tubes.

Fabrici succeeded Falloppio as professor of anatomy at the University of Padua. He was born in the small papal town of Acquapendente, in the province of Viterbo, where a monument in the main square still commemorates him. Curiously, every extant portrait - including that on his monument - depicts him as an elderly man; no youthful likeness appears to have survived. Fabrici moved to Padua under the patronage of a noble Venetian family, the Lippomano, where he pursued his studies with distinction. His academic career was brilliant: in 1566 he became professor of anatomy and developed a flourishing surgical practice. His scientific output was abundant, as attested by the catalogue of his principal works, yet his essential contributions to the progress of medicine - and particularly to neurology - are elegantly summarized in an anonymous Latin distich, modelled on one originally dedicated to Virgil:

“Acquapendente gave me birth; in Padua I found rest. My fame I entrusted to the theater, to the anatomical tables, to studies of the fetus and of the valves of the veins.”¹

Indeed, Fabrici's studies and illustrations mark the first systematic research on embryology since the investigations of Aristotle (384–322 BCE). Published in 1600, his *De Formato Foetu* (*On the formation of the fetus*) represents a milestone in embryological knowledge.

¹ *“Aucula me genuit/ Tenet Urbs Patavina/ Teatri sum, Tabulis, Foetu/ Clarus et ostiolis”.*

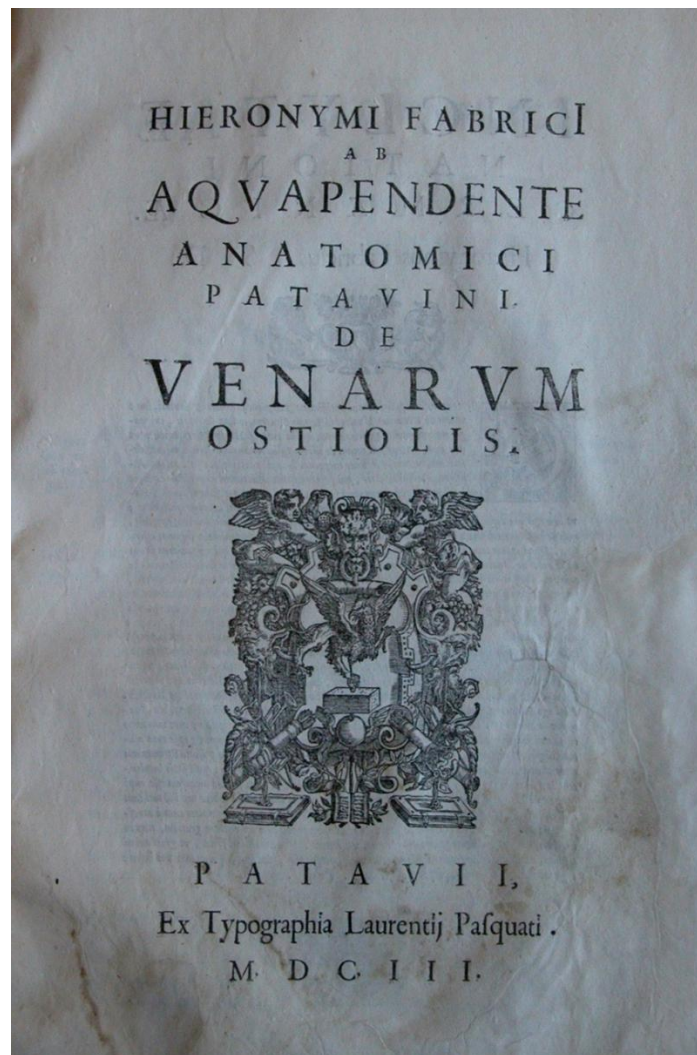


Figure 2. Frontispice of the *De venarum ostiolis*. Courtesy of the Pinali's Library-Ancient Section.

Yet his most influential work appeared three years later, in his treatise *De Venarum Ostiolis* (On the valves of the veins) (Figure 2). This treatise profoundly advanced anatomical knowledge. On the basis of Fabrici's meticulous description of venous valves, his student William Harvey (1578–1657) would later formulate the theory of blood circulation in his *Exercitatio anatomica de motu cordis et sanguinis in animalibus* (1628). Harvey (Figure 3) studied in Padua: in the Palazzo Bo, the historic seat of the University of Padua, Harvey's coat of arms remains visible (Figure 3), a testimony of his role in the administration of the university, a practice then common among students, who often participated directly in its governance.

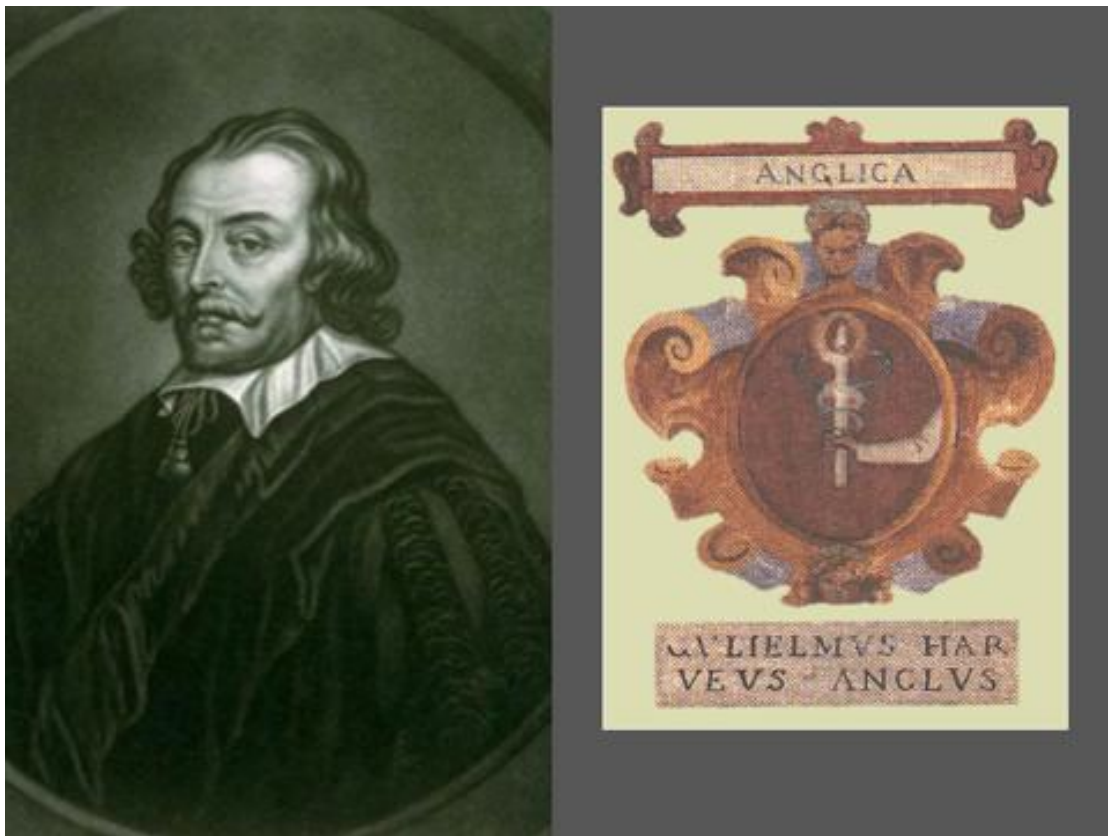


Figure 3. Portrait and coat of arms of William Harvey.

Harvey graduated in 1602, having attended Fabrici's courses in anatomy within the *Teatro Anatomico* (Figure 4). This theater, the first permanent anatomical theater in the world, inaugurated in 1495, was designed according to an elliptical plan that allowed for maximum visibility and active participation of the students. The architecture reflected a pedagogical principle central to the Paduan school: the student must *see* and *judge* what the teacher demonstrates, not accept it uncritically. The Padua theater subsequently served as a model for similar institutions throughout Europe, notably the one at Leiden, built by a Dutch pupil of Fabrici, Peter Paaw.



Figure 4. The Anatomical Theatre of Fabrici d'Acquapendente (1595). Palazzo Bo, Padova.
Centro Multimediale di Ateneo, Università degli Studi di Padova.

The *tabulae pictae* - i.e painted anatomical tables - constitute another of Fabrici's enduring achievements. Conceived as a colored atlas intended to illustrate the human and animal structure in the most natural way, the collection of 167 hand-painted pictures, preserved in the Marciana Library, is divided into eight volumes, accordingly to the anatomical subject:

- *De Anatomia Venarum Figure Varie*, Rari 110 [11 tables]
- *De Anatomia Ossium Figure Varie*, Rari 111 [22 tables]
- *De Anatomia Capitis Cerebri Nervorum Figure Varie*, Rari 112 [21 tables]
- *De Anatomia Animalium Figure Varie*, Rari 113 [55 tables]
- *De Partibus externis Figure*, Rari 114 [2 tables]
- *De Anathomia Thoracis et Parcium in Thorace Contentarum*, Rari 115 [5 tables]
- *De Anatomia Musculorum Totius Corporis. Figure varie*, Rari 116 [31 tables]
- *De Anatomia Abdominis et Parcium in Eo Contentarum*, Rari 117 [20 tables]

We find 44 more pictures bound within three volumes, which are also part of the d'Acquapendente's heritage: *De venarum ostiolis* [8 tables] and *De locutione et eius instrumentis* [1 table], Rari 118; *De formato fetu* (24 tables), Rari 119; *De visione, voce, auditu* (11 tables), Rari 120. As a whole, in the Marciana Library there are 211 pictures. About 40 more have been identified elsewhere. They are painted with oil and tempera, unfortunately on relatively fragile paperboard instead of canvas. Their realisation is clearly by different hands, as there are evident differences in style. Some artists have been proposed, among them the Varotaris, father and son, but this is still an open debate.

Girolamo Fabrici d'Acquapendente wanted this as a sort of “reference book” of anatomical coloured preparations, depicted with great naturalism, possibly also as a support to his teaching, to be placed alongside the anatomically dissected part or to be used temporarily when this was not available. At the end of the 16th century, in a period in which the monochrome xylographies of Vesalius remained an example of pioneering naturalism, Fabrici deserves merit for having first established with his collection the outstanding relevance of the use of colour in anatomical images. Since the printing techniques of the time could not reproduce color, painting remained the only medium capable of achieving the lifelike naturalism Fabrici sought. Fabrici evidently valued these works highly: in his will, he bequeathed them to the Most Serene Republic of Venice as a token of gratitude for the intellectual and material support he had received during his career. Curiously, for centuries the paintings were considered lost. As early as the eighteenth century, the Swiss anatomist Albrecht von Haller (1708–1777) lamented their disappearance. Only in the early twentieth century did the anatomist Giuseppe Sterzi rediscovered them, confirming their preservation in the same Marciana Library where they had been protected for centuries after their gift by d'Acquapendente.

One might ask what need there was for these painted tables after the magnificent engravings of Vesalius and his followers. The answer lies in the dimension of color. Though Vesalius's woodcuts already displayed extraordinary realism, only color could reproduce the immediate, almost corporeal vitality of the dissected body. Critics have noted that Fabrici's tables demonstrate not only anatomical accuracy but also a remarkable sensibility for the natural appearance of the tissues - their dryness, softness, roughness, even the marks of manipulation - imbuing them with a kind of emotional realism. Fabrici also adopted copper engraving for some of his printed works, a technique that allowed greater precision than the woodcut methods available to Vesalius.

Of the eight series, the third – *De Anatomia Capitis Cerebri Nervorum* - is of particular interest to us. Consisting of twenty-one plates, it focuses on the nervous system. Even a brief examination reveals their superiority to earlier depictions where the neuroanatomical structures could not take advantage of Fabrici's use of color, which introduces a striking realistic sense of three-dimensionality (Figures 5-6).

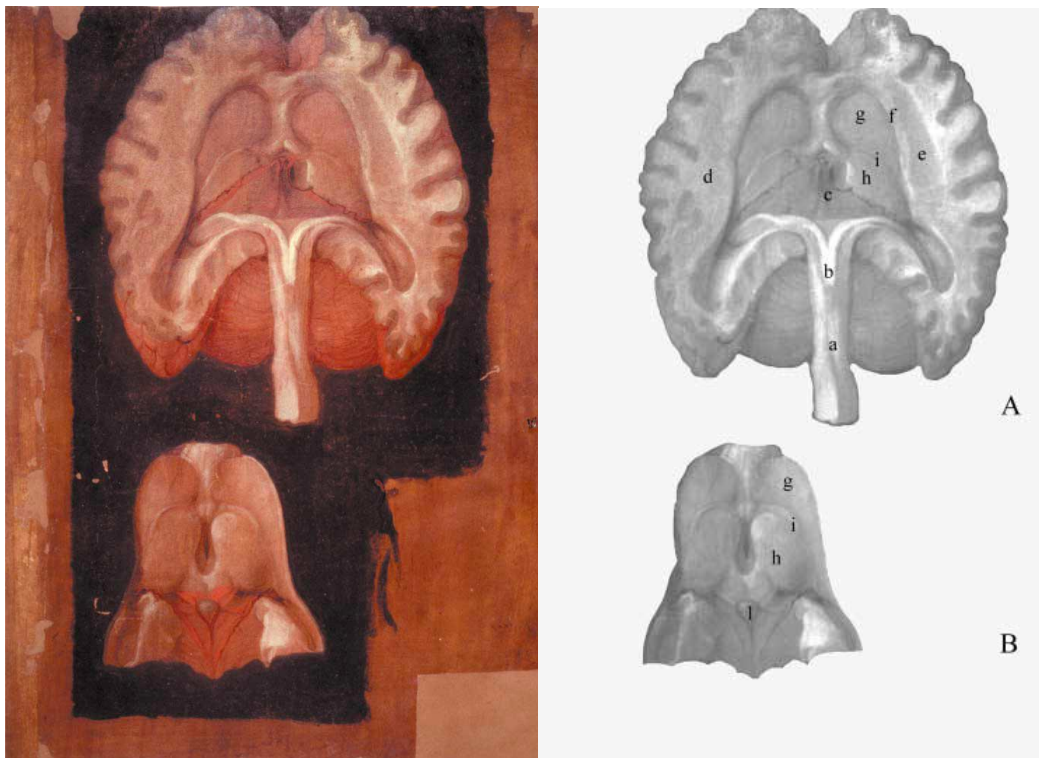


Figure 5. (A) On the superior part of the table: after the section of corpus callosum (a), also the fornix (b) has been cut on its anterior aspect and folded dorsally, whereas the tela choroidea (c) of the third ventricle has been left on site. On the right, the cerebral hemisphere has been sectioned rostrally and therefore the white matter (d) is clearly shown; on the left, a deeper section puts in evidence the nucleus lenticularis (e) and the capsula interna (f). Clearly visible are the nucleus caudatus (g), the thalamus (h) and the sulcus terminalis (i). This picture is utmost natural, particularly where it represents the chromatic features of the grey matter and of the white matter and its lucency.

(B) The inferior part of the table shows a close-up detail of the basal nuclei after the corpus callosum has been completely cut away. The epiphysis can be recognized (l). The nucleus caudatus (g), the thalamus (h) and the sulcus terminalis (i) are well represented, and their morphology is faithful.

Marciana, Rari. Table 112.8. Courtesy of the S. Marco's Library, Venice.

These works reveal Fabrici's artistic vision along with his pioneering scientific acumen. For instance, his representation of the cranial nerves emerging through the foramina of the skull (Figure 6) anticipates by nearly two centuries the clarity achieved in the great nineteenth-century anatomical atlases.

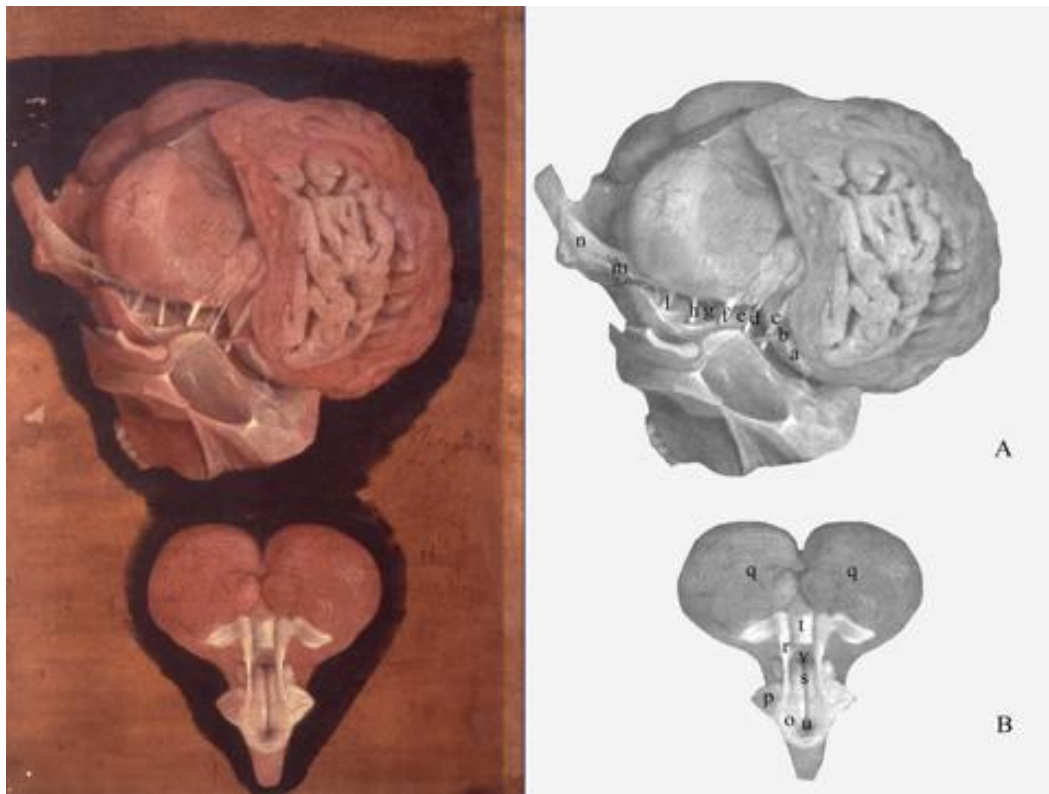


Figure 6. Above (A): A highly original left lateral view with a slight posterior obliquity of the relationship between the skull base and the base of the brain, with particular emphasis on the emergence of the cranial nerves and of the bony foramina into which they enter. The succession of cranial nerves is well represented and made recognizable by gently pulling the brain backwards and to the opposite side. Proceeding from the anterior part of the brain posteriorly, are highlighted: the first or olfactory nerve (a); the internal carotid artery (b); the second or optic nerve (c); the third or common oculomotor nerve (d); the fourth or trochlear nerve (e); the fifth or trigeminal nerve (f); the sixth or abducens nerve (g); the VII and VIII or facial and acoustic nerves (h); the IX, X, and XI or glossopharyngeal, vagus, and accessory nerves (l); the spinal component of the accessory (m); the first cervical root (n). The intracranial tract of the internal carotid artery (b) and its relationship with the optic nerve (c) are well represented, as is the vagus nerve (l). Below (B): View from the dorsal surface of the brainstem and cerebellum. The inferior (o) and middle (p) cerebellar peduncles have been sectioned; the cerebellum (q, q), maintained in connection with the superior cerebellar peduncles (r), has been elevated to simultaneously reveal the floor (s) and vault (t) of the fourth ventricle and the connections with the central canal of the spinal cord (u) and the mesencephalic aqueduct (v).

Marciana, Rari. Table 112.10. Courtesy of the S. Marco's Library, Venice.

Unfortunately, no explanatory text accompanying the *tabulae pictae* has joined us. It remains unknown whether the depicted structures - so faithfully and often innovatively rendered - were ever described or interpreted in functional terms. Although Fabrici's testament and his heritage mention several unpublished manuscripts of neurological interest, none have been found. However, research has yielded an indirect testimony. A manuscript dated 1584, preserved at the *Accademia degli Intronati* in Siena, provides valuable insight into Fabrici's anatomical methods. It contains detailed notes by a careful student, describing the dissection of the brain - beginning from the surface and proceeding downward without detaching it from the skull - and accompanied by sketches with Latin nomenclature (Figure 7). The terminology often corresponds to modern usage.

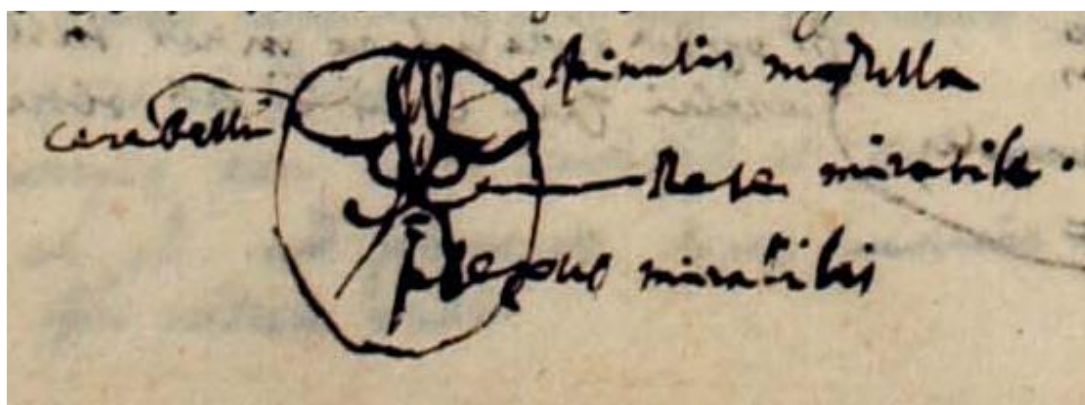


Figure 7. Fifth drawing of the “neurological section” of the manuscript *De anathomia quaedam excerpta sub excellentissimo Aquapendente anno 1584* (c. 69 verso). The drawing reads: *Spinalis medulla* (i.e. spinal cord); *Cerebellum*; *Rete mirabile*; *Plexus mirabilis*. Courtesy of the Biblioteca Comunale degli Intronati. Siena, Italy.

Although not written by Fabrici himself, one passage, clearly bears Fabrici’s own voice. Indeed, the following quotation, which refers to the Aristotelian cosmology, reveals the reverence with which he approached the study of the human body and specifically of the brain:

*“I am undertaking to describe a marvelous miracle of nature, the head.... the most divine of the parts [of the body] and connected with God because of its faculties. I am not astonished by the sky, by its splendor, light, vastness, movement, for it originates from pure celestial substance. I am instead overwhelmed by the head and the brain, which, although constituted of impure and corruptible matter, are nevertheless a site of the divine intellect...”*²

Fabrici d’Acquapendente thus emerges not merely as an anatomist, but also as a scientist who, at the dawn of modern anatomy, bridges the worlds of observation, art, and metaphysical inquiry; an investigator deeply fascinated and astonished by the brain, sharing with us the perpetual wonder which it inspires.

References

This paper summarizes a lecture presented during the 55th National Congress of the Italian Society of Neurology held in Padova (24-28 October 2025). It refers, with modifications, to the following articles and to their bibliography:

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Zanchin G, De Caro R. The nervous system in colour: the *tabulae pictae* of G.F. d’Acquapendente (1533 ca.-1619). *J Headache Pain* 2006;7:360-6.

² “Magnum naturae miraculum explicaturus sum ipsum caput [...] < , > caput est divinissimum membrum et per facultates in eo insitas est cum Deo connexum. Et ego certe non adeo miror coelum < , > eius splendorem < , > lumen < , > magnitudinem et cursum cum hoc ex purissima materia constructum sit < , > sed miror ipsum caput et cerebrum quod < , > cum sit ex corruptibili et impura materia < , > sit tamen sedes intellectus divini [...]”
De anathomia quaedam excerpta, c. 67 verso.



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