



UNIVERSA UNIVERSIS PATAVINA LIBERTAS- 800 YEARS

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Since 1222, the University of Padova has stood the test of time, still being regarded to this day as one of the best universities in the world. The university is placed in the center of the city, the headquarters being located, since 1493 until now, inside the Bo Palace, a building that enjoys the combinations of Renaissance and Rationalist architectural styles. Currently, in the Bo Palace there is the rectory of the faculty and the Faculty of Law. Also, in the palace there is the oldest dissection room in the world, dating from 1595. Last but not least, the building houses an honorary hallway, where we can find exhibited portraits of 40 of the most important foreign students who have worked in this university center.

“Riformatori allo studio di Padova” were elected by the Venetian Senate. Leonardo Donato played a crucial role in bringing of Galileo, who taught geometry, astronomy and mechanics, from 1592 to 1610. Also, Leonardo Donato contributed to supporting the construction of the famous Anatomical Dissection Theatre.

Paduan education formed, together with the great artists of the time, the grand protagonists of the Renaissance. It is no wonder that the University of Padua is still today in the top of the best universities in the world and continues to attract and sculpt the minds of young people.

Keywords: Padua, Medical Science, Andreas Vesalius, Galileo Galilei, Nicolaus Copernicus, Giovanni Morgagni.

INTRODUCTION

Being one of the oldest cities in Italy, Padua is known for one of the most prestigious universities in the world – the Università degli Studi di Padova. The city is bathed by the waters of the Bacchiglione River, and to the north it meets the Brenta River. Only 40 kilometers away is one of the most important cities of the Middle Ages: the capital of the former Republic of “La Serenissima” – Venice, represented for Padua an influence that fully supported the values of the university – academic freedom.

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until now, inside the Bo Palace, a building that enjoys the combinations of Renaissance and Rationalist architectural styles. Currently, in the Bo Palace there is the rectory of the faculty and the Faculty of Law. Also, in the palace there is the oldest dissection room in the world, dating from 1595. Last but not least, the building houses an honorary hallway, where we can find exhibited portraits of 40 of the most important foreign students who have worked in this university center. No wonder a large proportion of these students come from countries whose religion is Protestant; Padua represented in this sense, in the Christian world, a controversy, because despite the restrictions imposed by the Catholic Church not to receive students of another religion (besides the

Catholic one) in the university centers, Padua continued to receive¹.

It is also worth mentioning the oldest botanical garden afferent to the University of Pharmacy in Padua, a garden founded in 1545, protected by the UNESCO World Heritage Site. Last but not least, in the 17th century, Elena Lucrezia Cornaro Piscopia became the first woman to be awarded a doctor's degree in service.

Since 1404, Padua has enjoyed the protectorate of Venice, turning the city into the academic center of the Republic, bringing academics and professors from everywhere. Initially, the university's management was administered by the so-called "nations" – 22 groups of students who came from territories administered by Venice, territories administered by large Italian cities or European states at that time. The war of the Holy League had repercussions on the education in Padua, a war from which, in 1509, the courses were postponed and the teachers and students evacuated as a result of the short conquest of the city by the troops of the Holy Roman Empire. After the end of the War of the Holy League, the Republic reorganized the governing system of the educational unit, and created the posts of "Riformatori allo studio di Padova". These positions were in charge of the administrative affairs related to primary and university education, also taking care that the freedom of education in Padua was respected.

"Riformatori allo studio di Padova" were elected by the Venetian Senate. An important personality who enjoyed this title was Leonardo Donato, who later became Doge of Venice for 6 years until 1612. During his career as Riformatori in Padua, Donato played a crucial role in bringing of Galileo, who taught geometry, astronomy and mechanics, from 1592 to 1610. Also, Leonardo Donato contributed to supporting the construction of the famous Anatomical Dissection Theatre¹.

EUROPEAN HISTORICAL CONTEXT AT THE TIME – FROM THE UNIVERSITY OF BOLOGNA TO THE UNIVERSITY OF PADUA

The University of Bologna is the oldest university in the world. It is believed that it was founded in 1088 by an organization of students and teachers. The students were grouped into "nations", organizations that were originally created for protection from the collective sanctions imposed at that time by the authorities in Bologna; For actions, which are in conflict with the law, committed by a person of a certain nationality, all persons of that nationality suffered. Subsequently, these "nations" hired teachers to teach them the art of writing documents, theology, liberal or notary arts².



Figure 1. Europe's oldest anatomical theatre, built in 1595
(Foto scattata da Marco Bisello 2006-04-20 14:03 Kalibos).

As time passed, these nations united and formed the so-called “Studium” – thus, laying the foundations of the first university. The students had great bargaining power, as the teachers were paid from the money of foreigners who came to Bologna to learn – hence the effectiveness of student strikes. Each teacher was elected and fired by representatives of each nation. The teachers, on the other hand, had the authority of the teachers: to determine the examination fee and the requirements necessary to obtain the diploma. The teachers were grouped in the “collegia doctorum”³.

The University of Bologna is known for its law school. Students would come, generally to Bologna, to study one of the most ancient texts of Roman law, a text called Digest.

Basically, the University of Bologna – with the motto “Alma Mater Studiorum” – represented the starting point and the pretext for the establishment of the University of Padua.

The story begins with a group of former students and professors who left the University of Bologna, unhappy with the academic freedom granted to certain subjects. The year 1222, that is 800 years ago, marks the beginning of the academic center in Padua, distinguished exactly by the freedom of thought. This manifested itself in many ways, from anatomical dissections in the time of the Inquisitions, to the acceptance of Protestant students or to the uprising against fascism⁴.

We can talk about a strong affirmation of the University of Padua that was possible due to some illustrious personalities who worked in fields such as medicine or astronomy. Basically, thanks to the Renaissance current, attention turned to man, and artists such as Michelangelo or da Vinci resorted to the dissection of human corpses to better understand anatomy. Until the 14th century, anatomy and physiology were taught after the writings of Hippocrates, Galen, Avicenna and Rhazes, writings that did not do justice to the anatomy of man. Galen performed, for example, dissections on monkeys, then generalized the observed anatomical and physiological elements in humans. Padua also enjoyed the protectorate of the “Serenissima Republic” of Venice between 1404 and 1797, the year that marks the fall of Venice and the beginning of the French occupation⁴.

The fascists who dominated Italy between 1922–1945 imposed, for example, laws depending on the nationality that were detrimental to the development of the University. During the German

occupation (established for a short period of time in World War 2), the rector at the time, Concetto Marchesi made a statement addressing his students, urging them to fight for the freedom of Italy. As such, the University of Padua is the only university that has received the gold medal for military bravery⁴.

PERSONALITIES RELATED TO THE UNIVERSITY OF PADUA

• Andreas Vesalius (1514–1564)

Born on December 31, 1514 in Belgium in a family of well-known doctors and pharmacists, Andreas van Wesel was one of the greatest personalities related to the Faculty of Medicine in Padua. He studied medicine between 1533–1536, at that time Paris being the reference university center for medical university education beyond the Alps.

At that time, medical study was limited to reading a book readjusted from Galen’s writings: for example, Vesalius studied the book “Introduction to Anatomy” written by a professor at the University of Bologna – Mondino de’Luzzi. The anatomy described by him was inspired by the Galenian one, which, as mentioned, was inspired by monkeys, not humans⁵.

At that time, dissections were rare and unfolded according to the medieval method – totally different from the current one – a professor occupied the role of “lecturer”, the person who was in charge of reading aloud the anatomy book that described the structures to be dissected. The 2nd person, called the “sector” dissects the corpse, while the 3rd person makes sure to present to the students the structures dissected by the “sector” and anatomically described by the “lecturer”.

Numerous historical events led Vesalius to graduate from the University of Padua, where he later held the position of lecturer in surgery the following year. As he continued to dissect corpses, he noticed the discrepancy between the anatomy observed on the dead and the Galenian anatomy. Thus was born the first volume of anatomical sketches of Vesalius, called “Tabulae anatomicae sex”, being a volume of 6 drawings made by Jan van Calcar (disciple of Titian) having as model the Vesalian anatomical representations. For example, the liver and the portal vein are anatomically described in sketch number 2 of this volume⁵.



Figure 2. Portrait of Vesalius by Jan van Calcar.



Figure 3. Andraee Vesalii Bruxellensis, scholae medicorum Patauinae professoris, de Humani corporis fabrica Libri septem, 1543.



Figure 4. Galileo Galilei by Justus Sustermans.

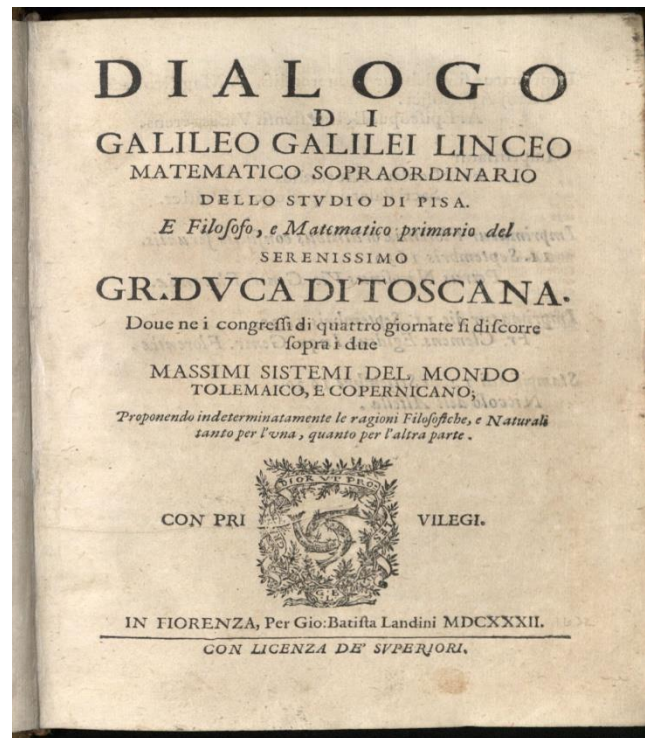


Figure 5. Dialogue Concerning the Two Chief World Systems, 1632.

The year 1542 marks the creation of the work for which Vesalius is known to be the man who

revolutionized anatomy and laid the foundations of modern medicine: "De humani coporis fabrica libri

septem”, while demonstrating that Galen never dissected a man. It consists of 7 volumes of sketches, drawings and anatomical illustrations observed by Vesalius in his numerous dissections made at the University of Padua. This work was so important that shortly after its publication, Andreas Vesalius was nominated as the personal physician of Emperor Charles the 5th of Spain^{6,7}.

Volume number 3 of “Fabrica” is about the structure of veins and arteries; it is believed that these sketches helped William Harvey (1578–1657), an English physician, elaborate the theory of blood circulation in the body^{6,8}.

• **Galileo Galilei (1564–1642)**

One of the most important figures of the Renaissance, Galileo Galilei is considered the father of modern science. He was born on February 15, 1564 in Pisa, being the eldest of 6 brothers. He was educated in logic at Vallombrosa abbey, and initially attended the faculty of medicine in Pisa, later discovering his passion for mathematics and following it in Pisa⁹.

Beginning in 1592, Galileo moved to the University of Padua, where he taught geometry, mechanics and astronomy until 1610¹⁰.

Among Galileo’s many merits is the fact that he laid the foundations of the scientific method, wave theory, numerous astrological theories and, last but not least, he supported the subject which was deemed to be (by the Inquisition) one of the most

heretical theories of them all. Galileo was a fierce proponent of heliocentrism, a theory which states that the Earth is not the center of the Universe, it orbits the Sun. These theories were considered heretical at that time because they were in absolute non-conformity with biblical beliefs.

Due to his beliefs in heliocentrism, he was investigated for heresy and, in 1633, was found guilty: “vehement suspect of heresy” and was sentenced to house arrest, where he spent the rest of his life until his death¹¹.

Among his works are “Le Meccaniche” – written in Padua, “De Motu”, “Sidereus Nuncius”.

• **Nicolaus Copernicus (1473–1543)**

A personality who contributed to the start of the Scientific Revolution, Nikolaus Kopernikus was born on February 19, 1473 in Thorn (12) (or Toruń), a city in Poland. He began his academic studies at the University of Kraków, now known as the “Jagiellonian University”, the period being between 1491–1495. He studied philosophy, which explains his further passion for astronomy: it is believed that, at that time, Copernicus was a pupil of Professor Albert Brudzewski, who taught Aristotelian philosophy, being also passionate about astronomy, which he was discussing in private. Numerous events led Copernicus to the Italian universities – he studied law in Bologna and medicine in Padua, at that time astrology being an important part of the education of the young doctor.

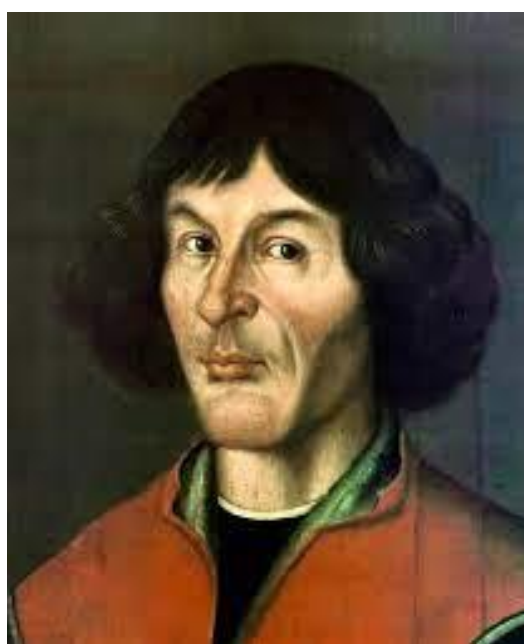


Figure 6. The “Toruń portrait” (anonymous, c. 1580), kept in Toruń Town Hall, Poland.

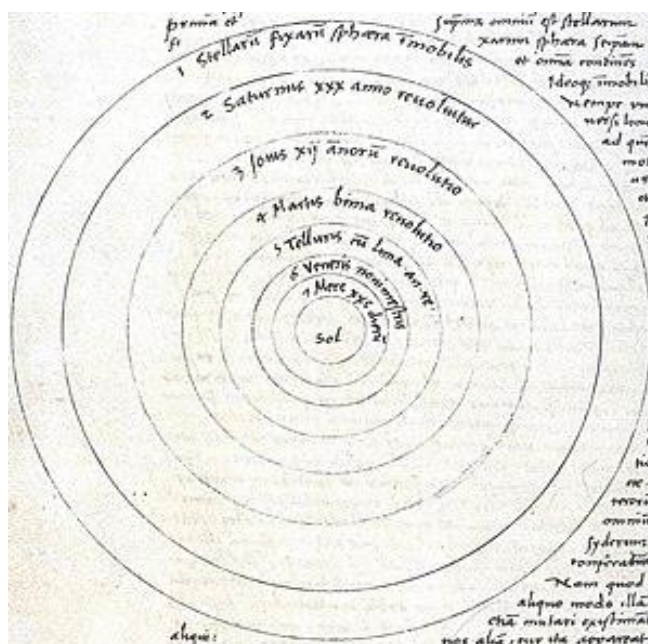


Figure 7. Schematic diagram of heliocentric theory, from „De revolutionibus orbium coelestium”, 1543.

Nicolaus Copernicus the man who assigned heliocentrism a mathematical model, by which he asserts, contrary to the beliefs at the time, that the Earth orbits around the Sun (implicitly refuting that the Earth is the center of the world). He elaborates this hypothesis in 1510, but despite this, the book “*Dē revolutionibus orbium coelestium*” in which his ideas are contained appears only in 1543, the year that is marked by the moment of his death.

- **Giovanni Battista Morgagni (1682–1771)**

Giovanni Battista Morgagni was one of the most known anatomy professors who taught in Padua. Many students and curious gathered to listen to his courses during his professorship for about 60 years while he taught in the anatomy department of the University of Padua. He is considered the father of pathological anatomy¹³.

He was born on February 25, 1682 in the city of Forlì, the capital of The Province of Forlì-Cesena. Between 1698–1701 he studied medicine and philosophy in Bologna. Since 1711 he became a member of the anatomy department in Padua, the department which until that moment had enjoyed prestige due to the great teachers and students it has

had. Numerous academies paid homage to Morgagni, including the Royal Society of England, the Academy of Paris and the Imperial Academy in Saint Petersburg. Because of his prestige, Morgagni not only enjoyed their tribute, but also the favors of the pope, the high senators and dignitaries of the “*Senerissima Republic of Venice*”.

Giovanni Battista Morgagni’s most important publication is entitled “*De Sedibus et Causis Morborum per Anatomen Indagatis*” (1761) and contains information gained from more than 600 autopsies. In this work, Morgagni correlates the anatomical discoveries inside the corpses with the clinical symptomatology developed by those people, thus laying the foundations of anatomical pathology¹⁴.

Morgagni corrected numerous anatomical mistakes described by his colleagues before, but also described new anatomical structures, for example, the middle prostatic lobe (Morgagni’s caruncle), the vertical folds of the rectal mucosa (Morgagni’s columns) or the mucous glands inside which reside in the male urethra (Morgagni gaps)¹⁴.

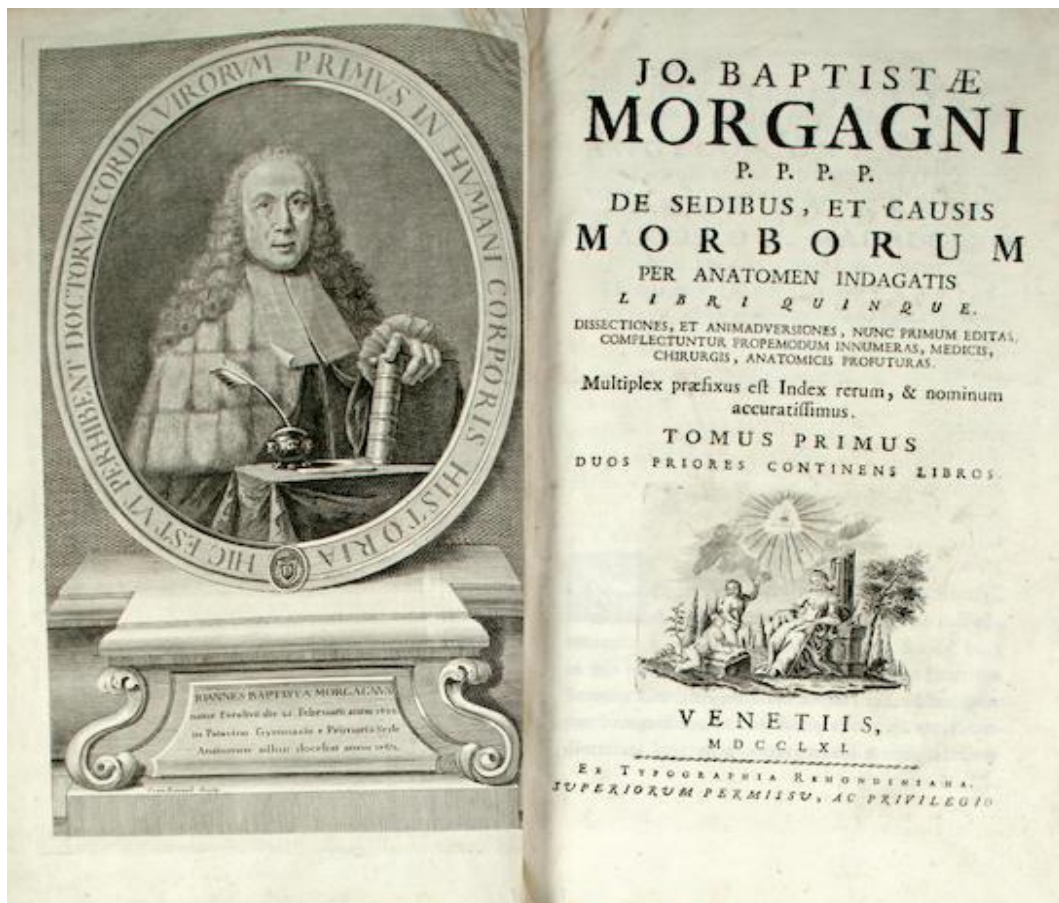


Figure 8. Giovanni Battista Morgagni and his work (*De Sedibus et Causis Morborum per Anatomen Indagatis*, 1761).

CONCLUSIONS

For 800 years, the University of Padua has represented for mankind an academic center that has not only laid the foundations of modern medical education, but has also inspired and supported many scientists to whom we owe our gratitude¹⁵. Despite the many scenarios that the University went through, it managed to keep in a laudable way the virtues of the paduan education – the freedom without which these astonishing performances would not have been achieved, freedom without which many personalities of that time could not have developed. Especially before the Renaissance, blasphemy, impurity and unjustifiability in Padua turned into reason, creativity and curiosity.

Paduan education formed, together with the great artists of the time, the grand protagonists of the Renaissance. It is no wonder that the University of Padua is still today in the top of the best universities in the world and continues to attract and sculpt the minds of young people nowadays. Due to the principles underlying the foundation of this university, Padua participated in shaping the present, and, in a sublimely paradoxical way, the present is the paduan cast of freedom.

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