

Contribution of the University of Salamanca to the implantation of Vesalian anatomy in Spain

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SUMMARY

After considering the background to the development of medicine as regards anatomy before the appearance of Andreas Vesalius, we analyze the introduction of Vesalian anatomy in Spain. In particular, we place emphasis on the role played by the University of Salamanca in the following aspects: the creation of a Chair of Anatomy independent of other medical studies, the calls to cover the position, the knowledge to be demonstrated by the candidate, the conditions to be met once the chair had been awarded, and the construction of a building in which anatomy was to be studied. We also describe how all these issues were put together in different clauses supervised by the Senate Council and in the University Statutes of 1561 and after in 1594.

Key words: Anatomy - Dissection - Anatomical norms - Anatomical amphitheatre

BACKGROUND

Contributions to anatomical knowledge have always played a key role in the development of medicine. The Alexandrian School (Herophilus and Erasistratus, 4th century BC) began the study of anatomy in a rational way, based on the dissection of human bodies. This was an advance in medical studies (Montemayor, 1997).

With the anatomical contributions of Galen (2nd century AD), although based on the dissection of animals, medicine reached such a pinnacle that

for many years (up to the 15th and 16th centuries) nobody questioned his teachings, including his anatomical contributions.

In the 14th century, the practice of dissecting human cadavers was begun in Bologna (Italy); this had been abandoned since the times of the Alexandrian School (with some exceptions in Arabic medicine). An outstanding scholar in this sense was Mondino de Luzzi, with his work *De Omnibus Humani Corporis Interioribus Membris Anathomia*, published around 1316, which was the first book devoted entirely to anatomy. Although de Luzzi dissected human cadavers, the anatomy he explained continued to be "Galenic", but with Arabic influence. Following the norms of the period (traditional teaching), and as may be seen in the engraving of the *Fasciculo di medicina* of John Ketham, where Mondino is represented as a "Maestro" teaching his disciples from his high Chair, he would read the corresponding lectures, while his scholars sat at his feet around a cadaver was opened by a barber-surgeon (Barcia Goyanes, 1994; Moxham and Plaisant, 2014).

The practice of human cadaver dissection, which was fairly sporadic, had also extended to Padua (Italy), Montpellier (France) and Lérida (Spain). Focusing on Spain, James II founded the University of the Kingdom of Aragon (1300), where medicine was taught, and in 1391 King John II authorized surgeons to perform anatomical dissections, or autopsies (López Piñero and Jerez Moliner, 1997; Martín-Vidal and Pardo-Tomás, 2005). However, the practice was not widespread and never had much influence.

With the advent of the Renaissance, interest in dissections performed on human cadavers was rekindled, and little by little this movement began to gain ground. The 16th century was a period of

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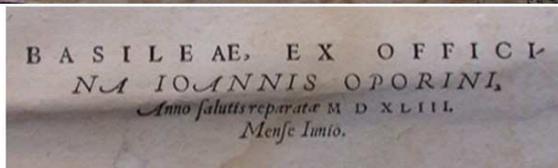
Figure 1. Cover of the book by Vesalius, “*Princeps*” edition (with date of publication) housed in the holdings of the library of the University of Salamanca. Vesalius has come down from his seat and is teaching, surrounded by students, next to a cadaver.

anatomical thinking. At this time anatomy began to acquire scientific standing, with the fundamental contributions of Andreas Vesalius based on the study of cadaver dissections. The impetus given to anatomy by artists, painters and sculptors was also important: Leonardo da Vinci (1452), with his anatomical drawings based on the dissection of 20 human cadavers, is a prime example.

However, in the 16th century, before Vesalius, it is necessary to mention Berengario da Carpi (1460-1550), who, unhappy with the traditional anatomical descriptions of Galen, performed dissections of human cadavers and wrote his own anatomical treatise, *Anatomia Carpi. Isagoge Breves Per Lucide ac Uberissime, in Anatomiam Humani Corporis*, and was a pioneer in the use of anatomical images in teaching. In Spain, it was Andrés Laguna³ with his *Anatomica Methodus Siue de Sectione Humani Corporis* (1535), who added personal observations, obtained from human cadaver dissection.

Initially, Vesalius was an unconditional follower of Galen; after performing dissection on human cadavers in Paris, where he studied medicine under the supervision of his “*Maestro*” Jacque Dubois, a famous Galenic anatomist. He became aware of the errors that Galen had committed when performing dissections on animals, although his “*Maestro*” never admitted his criticisms.

Vesalius had to move from Paris to become a bachelor of medicine. He first went to Leuven, and then to Venice and Padua. In the latter city, he taught anatomy in an unconventional, non-traditional way, coming down from his chair and teaching the subject surrounded by his disciples while he dissected, or by means of drawings of what was visible in the cadaver. He thus began what was later to become known as the *Vesalian method*. This led to unrest in the Doctors’ Senate of Padua, but Vesalius continued, writing a treatise on anatomy based on his post-dissection observations. In 1543 he published his well-known *De Humani Corporis Fabrica* (Figure 1).



Thus was born the *anatomical revolution*, based on the dissection of human bodies. It gradually extended throughout Europe, although with considerable difficulties. With this type of teaching, anatomy emerged as a subject independent of medicine, but medicine profited from this and enriched its development with a better understanding of the human body. This sparked the emergence of other independent disciplines, such as Surgery or Physiology and, little by little, the other medical specialities.

Returning to Spain, towards the end of the 15th century and during the first half of the 16th the colleges of barber-surgeons, brotherhoods and hospitals in Barcelona, Zaragoza and Valencia were authorized to perform human cadaver dissections. This was later taken up at the respective Universities themselves (which were maintained by municipalities and in which medicine was well developed), the university at Valencia being the first to support Vesalian anatomy. In 1545-1546, anatomy

Figure 2. Cover, a plate, and one of the pages of the Book of Anatomy by Valverde de Amusco (1556) in the library of the University of Salamanca.

was taught at the University of Valencia as a discipline in itself, although it was not completely independent (the Chair was “*Anatomia y Simples*”). Pedro Jaime Estévez⁴ was the first anatomist, and he followed, undoubtedly with misgivings, the Vesalian School. It was his successor, Pedro Jimeno⁵, who is reported to have begun the so-called *Valencian School* of anatomy, followed shortly thereafter by Luis Collado⁶, the true driving force of Vesalian anatomy. Collado was trained as an anatomist together with Vesalius, and always considered him his “*Maestro*”, in 1560, the Chairs of “*Anatomia y Simples*” were separated in Valencia, and in 1567 the teaching of anatomy was programmed to last for 2 years. Strict vigilance was focused on the practice of the obligatory “*anatomias*”, the Chair of “*Practicas*” (dissections of human bodies and body parts) was created for such purposes (López Piñero, 1974, 1979; López Piñero et al., 1997; Martínez Vidal and Pardo-Tomás, 2005).

At the Castilian universities (Salamanca, Valladolid and Alcalá), protected by the Monarchs, medical studies did exist, but they were considered to be the studies of a School lower down in the ranks than Theology or Canons. However, in that century, especially in the second half, the practice of dissecting human bodies was also begun.

At the University of Alcalá, the most modern of those cited above, anatomy was taught by “*Valencian*” teachers, and although the Vesalian School was followed there, it never really took root. At Valladolid, one could cite Rodríguez de Guevara⁷, who taught a course on anatomy around 1548-1550, performing dissections on human cadavers over 20 months with considerable success. He was then sent to Portugal, where he wrote a book on anatomy in which the opinions of Galen and Vesalius were contrasted. That course was attended by Bernadino Montaña de Montserrat⁸, who in 1551 published the book *Anatomia del hombre*, the first book on anatomy written in Spanish. Bernadino was above all a “*Galenist*”. Then there was Juan Valverde⁹, born in Amusco, who wrote *Historia de la composición del cuerpo*



humano, also in Spanish, in 1556. He never taught anatomy in Spain, and his book was published in Rome. He was an anatomist of the *Vesalian* school, a trend that was later to become widespread in Spanish universities (Figure 2) (Martínez-Vidal and Pardo-Tomás, 2005; Rodríguez de Diego, 2006; Rojo Vega, 2006).

Outside the university sphere, in Castile the Monastery of Guadalupe (Cáceres) had a good hospital and a well-equipped pharmacy (Figure 3). Anatomical dissections were performed at the hospital, since it had been granted a pontifical privilege for them to be done in 1402 (it is still possible to see the basement, now a storage place, where these dissections were carried out). There, *Dr. Hernández*¹⁰, a bachelor of medicine, performed dissections on animals and human cadavers. For example, he described the uterus of a pregnant woman “as I saw in the cadaver of a pregnant woman that we dissected, is pear-

shaped, very different from that of cows, goats and sheep, in contrast to the beliefs of Galen (Campillo Alvarez, 2010). Dr. Hernández corrected many of Galen's mistakes, although he forgave him for them since it must have been difficult, in those times, to perform dissections on human bodies. As an anatomist he was a full adherent of the Vesalian School (López Piñero, 1974).

(In this review we have taken into account the books on the History of Spanish Medicine by Lain Entralgo (1973) and Sánchez Granjel (1980) as referenced in the bibliography).

ANATOMY AT THE UNIVERSITY OF SALAMANCA

(Note from authors: the indented texts written in Latin appear in the Spanish of the times as end-notes)

In 1538, when the Chair of Anatomy still did not exist at the University of Salamanca, the "Statutes of the University" were drawn up. Section XVIII addresses "those that must be read by the Chairs of Theology and Medicine and Natural and Moral Philosophy". There, we read:

The Prima Chair¹¹ of Medicine: "Read from Avicenna the part that students, or most of them, demand, and all medical students, after the baccalaureate in Arts, should hear in the first years of medicine a "Lectura" on moral Philosophy, without which he will not be admitted to the baccalaureate in Medicine; and after they have read three years of medicine they must practice for half a year with one of the Doctors or degree-holders from the University, and without this they will not earn a degree"¹²

The "Lecturas" were not specified, except in the class of *Prima*, but since the Constitutions of Martin V (1422) the books used were specified: *Liber Canonis Avicenna* (its reading was compulsory up



Figure 3. Monastery of Guadalupe (Cáceres, Spain) today. There is a room in the basement where dissections were carried out.

to 1617) and, among the books of Galen, those most related to Anatomy, and above all the book *De usu partium corporis humani* read at the Chair of *Visperas*¹³. Nothing is mentioned about practical anatomy.

According to López Piñero (1974), it was at the University of Salamanca, through its 1561 Statutes, where we are to find the *most meticulous and demanding ruling about the teaching of anatomy ever enacted during the 16th century*. Moreover, according to Martínez-Vidal and Pardo-Tomás (2005), a *permanent anatomy theatre* was constructed, the oldest in Spain and perhaps in Europe.

Indeed, the University of Salamanca was the first in Spain to regulate the teaching of anatomy as an independent discipline, imposing the Vesalian model. A Chair of Anatomy was created and a call to cover the vacancy was published. The position was to be gained by public exam, and a permanent space, "*La Casa de Anatomía*"¹⁴, was built for dissections to be performed. All this was done by agreements settled in many Senate meetings¹⁵ (ongoing since 1550), and the rules to be followed were set forth in its 1561 Statutes¹⁶. These were later modified by new Senate agreements along the second half of the 16th century and in its new 1594 Statutes¹⁷.

(The meetings of the Senates are well referenced in the works cited, referred to as Archives of University of Salamanca-AUS-, Senate book and folios)

FOUNDING OF THE CHAIR OF ANATOMY

On 6th September 1550 the Deputies' Senate ordered the *maestrescuela* of the University, Don Juan de Quiñones, to:

*Gather physicians, surgeons and Masters of Arts of the University to address the request of the Royal Council concerning anatomy and their Majesties' request about considering whether it would be suitable for anatomy to be taught in these kingdoms, as is said is and done in other kingdoms*¹⁸

Thus, once the University physicians, surgeons, and Bachelors of Arts had gathered in a number of sessions of the Deputies' Senate held in November 1550, they addressed the request. Some Professors were against the idea of implanting anatomy as an independent subject in Medicine, while others were in favour. Of these, the person charged with speaking was Lorenzo Alderete, a Professor of the *Prima* Chair in Medicine and very keen on creating a Chair of Anatomy at the University. He stated:

"As Galen and others write, it is necessary to see anatomy with the eyes in order to better understand disease and cure it; regarding the anatomy written in books, this is like a figure or painting of real anatomy that is done with dead

bodies, so it is true that seeing anatomy is better than merely seeing pictures of it or reading about it”

He goes on to say:

“in the books where anatomy is described, there are opinions and mistakes which, if anatomy were done with the eyes, could be judged to be true or not since the signals and cures of diseases, although well described in the books, are insufficient to cure a patient perfectly and if students do not see diseases with their own eyes or do not follow up patients in their cures this will also be insufficient. Written anatomy will also be insufficient if real anatomy is not seen with the eyes. It therefore seems necessary that physicians and surgeons should see how to perform anatomical studies, and many of them. If they do so, this will be of great benefit for all of Spain, because they will know how to cure all manner of physical and surgical illnesses”¹⁹.

Faced with these arguments, the majority of the Senate agreed that there should be a Chair of Anatomy at the University, and the following reply was brought up before the Royal Council (23rd November, 1550):

“There having been several occasions in which people experienced in matters of medicine and of surgery have met, and having discussed the content of the Royal provision, it seemed most suitable that there such anatomy should be taught and that it should be fostered, because it is profitable and necessary”²⁰.

On 5th September 1551, the presence of Cosme de Medina²¹ was announced in Salamanca; his aspirations were to read, dissect and perform anatomy. The candidate was willing to do this as long as the University would offer him a decent salary. The Senate asked the candidate Medina to remain in Salamanca until the day of St. Luke²² (18th October) and that, during that time (5th September- 18th October), he would practice at the Hospital of the *Studium*, both in “*Lecturas*” and in the practice of anatomy so that he could demonstrate his proficiency.

On 9th September 1551, the Deputies’ Senate established the salary of the new Chair at 40,000 *maravedíes*²³ and gave him a contract for three years. Edicts were issued from the University and also from Alcala, Valladolid, Valencia and Toledo (taken from Santander, 1983, 1999) to put out calls for the vacancy of the Chair: “that *Licenciado* Medina, a candidate for the Chair of Anatomy must show, within a period of 15 days after Easter his proficiency in his “*Lecturas*” and his dissections in anatomy” (Prieto Carrasco, 1936; Sánchez Granjel, 1980, 1989; Santander, 1983; Alejo Montes, 1998; Martínez-Vidal and Pardo-Tomás, 2005).

CONTENT OF THE DEMONSTRATIONS

As may be seen in the Sessions ledger of the Deputies’ Senate, the demonstrations for access to the Chair of Anatomy began on 14 March 1552.

The Senate stipulated a series of rules, and Cosme de Medina had to read “*de arreo*”²⁴ several “*Lecturas*” on anatomy and practise anatomy by performing:

Three anatomical exercises and “Lecturas” in the corridor of the upper floor of the building. The first exercise was to be done from five to six, on the kidneys and urinary bladder of a ram that the Studium’s butcher would provide for such purposes. The second, performed at two o’clock on the following day, consisted of the dissection of a ram’s heart and eye. In the third, on the same day, the licenciado Medina dissected a pig paid for by the University”²⁵.

The job of the scrivener²⁶ of the University was to testify that he had really seen what was reported to have been done, and he wrote:

“In the Hospital of the Studium he read some lesson of Anatomy uninterruptedly over several days (two or three). I testify that in the corridors and the “Escuelas Mayores” there were many benches and seats where the men from the University were seated to see anatomy being done, which I, the scrivener, saw was done two or three days in “arreo” style. There were many people from the University -doctors, maestros and students - and indeed so many that they could hardly see what was being done and could only hear what was being said” (taken from Prieto Carrasco, 1936)²⁷.

On 28 March 1552 the Chair was granted for a period of three years, as published in the Universities, and the person holding it had to meet the following conditions referring both to the “*Lecturas*” and the practice of anatomy.

CONDITIONS TO BE FULFILLED BY THE PROFESSOR AT HIS CHAIR

Regarding matters of the “*Lecturas*”, he had to teach the *books of Galen*²⁸, and the *Cirugía de Guido*²⁹ must be also taught. The name of Vesalius was not mentioned. A calendar for the “*Lecturas*” was also specified:

The first one he had to teach at the start of the year was Galen’s anatomy, starting with the abdomen and the parts therein; then following with other parts, and finishing with the anatomy of all the parts of the body. The rest of the year he should devote to giving his “Lecturas” to the book on surgery by Guido. It was also specified that the “Lecturas” in anatomy had to be read from one to two in the winter, and from two to three in the summer in the “General de Sext” where astrology was read³⁰.

The Chair endowed was essentially practical in outlook, and in this case the Vesalian doctrine was

followed, placing emphasis on dissection (Prieto Castro, 1936; Santander, 1883). The conditions stipulated were as follows:

The Chair holder must practice anatomy throughout the months of the year, depending on the matter in hand. For this to be accomplished, all the bodies of executed criminals and poor people who died in hospitals should be used, and if human bodies are not available, they should be sought and paid for by the University, if there were any. In one year, at least 30 dissections should be performed on human bodies or on others if necessary (i.e. animals), and if more human bodies were available, then these should be dissected too. In the dissections of these bodies there should be as many "Lecturas" for reading and dissecting as possible. On days when dissections of human bodies were being performed, five hours should be devoted to this between the morning and the afternoon. When human bodies were available for dissection and anatomical studies, the licenciado should be responsible for obtaining them and, if this were not possible, other animals should be used for dissection. The Rector, the Vice-Chancellor and Treasurer and Drs Juan de Aguilera and Alderete were charged with determining where the anatomical studies should be performed. For this, Medina was to receive a salary of 40,000 maravedíes for the three years, as specified by the Senate. The three years should begin and thenceforth continue as from 10 days of the month of March 1552³¹.

After some time, possibly because of the complaints of Cosme de Medina about having too few bodies to complete his tasks, on 23 June 1552 the Deputies' Senate attempted to request from the Royal Council:

*"permission so that each year it would be possible to use as material the bodies of three people sentenced to death and they should be executed accordingly, or otherwise the bodies of people dying in the hospital that was most at hand for the doctors of the University"*³²

THE HOUSE OF ANATOMY

The Professor of Anatomy had to perform whole-body dissections and partial dissections. The former were to be done in the corridor of the University building³³ (second floor, above the "Generales"³⁴), while the latter were to be done at the Hospital of the *Studium*³⁵. When it was done in the building of the University, this caused some concern among the students and neighbours, owing to the bad smells emanating from the activities and the practical jokes carried out by the students.

In his *Historia de Salamanca*, Dorado (1861) says that in 1561 the University Statutes regulated the teaching and practice of anatomy, stipulating

that several operations should be carried out on human bodies, and if there were none available, that the dissections should be done on dogs or other animals, so that students could learn of the movements of the heart, the functions of the kidneys, and other organs. All these operations should be done at the Chair or in the Hospital of the *Studium*. This inflamed the neighbours, owing both to the bad smells and some of the jokes played by the students when not supervised by the professor, such as assembling skeletons or showing other no medical students the anatomical pieces.

Menéndez-Pidal and Pardo-Tomás (2005) also argue that one aspect that boosted the success of the operating theatre was the construction of wooden benches and chairs in the corridor of the *Studium* so that people could watch.

Moreover, on 23 June 1552 the Senate Council ordered the erection of a building in which to practise whole-body anatomy (the House of Anatomy). The Council decided to nominate a commission that was to be responsible for looking for a site for dissections, which turned out to be next to the church of San Nicolás³⁶, and this Commission included Dr. Lorenzo-Alderete. The Council also ordered:

*"A building for the practice of Anatomy next to San Nicolás and accorded that for the building to function properly all the money required to pay the person responsible for the study should be paid out in full."*³⁷

Also, the Commission

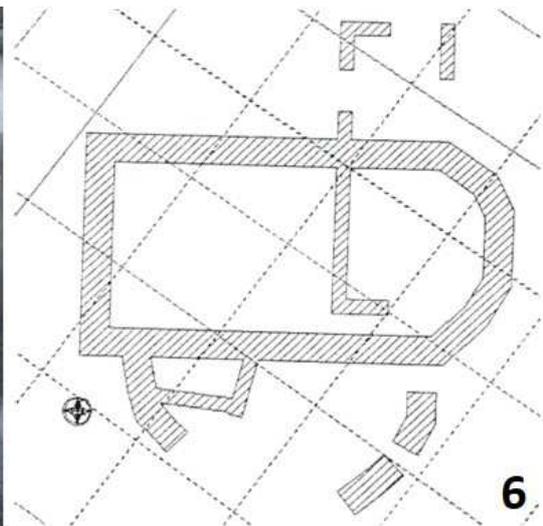
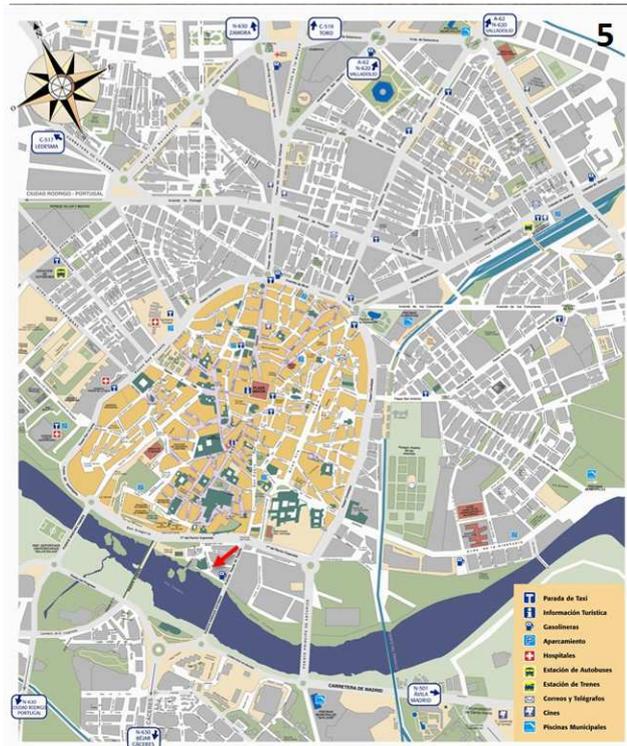
*"Had the power to request land, next to San Nicolás, from the city and whatever was necessary to run things smoothly and also to ask the Bishop or a delegate and the clergy (Clerecía) for anything necessary."*³⁸

After solving certain problems with the Cathedral Council³⁹ of the city, the work was finally begun, and on 5 May 1554, some 22 months later, the building was completed, since we know that

*"The mason who built the House of Anatomy requested payment for his work and said that if any further adjustments were to be made he would do so. They asked him to leave the premises and said that the mason, Martín Navarro, was to be paid and that the building was finally completed"*⁴⁰.

Today it is still possible to see the ruins of the apse of the church of San Nicholas. And there are archaeological data about the structures surrounding the church indicating the position and shape of the House of Anatomy, as may be seen from the analysis performed by CONATUS (A company responsible for the Archaeology and Management of Cultural Heritage) using georadar technology on the subsoil of what is now the Museum of Automotive History in Salamanca (Figures 4-6).

Apparently, the amphitheatre was semicircular and was reputed to have rough walls of rubble-



Figures 4-6. Approximate location of the Church of San Nicolás and the House of Anatomy on a current map of Salamanca. Dated approximately 1570. The approximate site is shown with an arrow in Fig. 4. Figure 5 shows the location, on an updated map, of the remains of the apse of the Church of San Nicolás (signalled with a red arrow). These remains can be observed today “in situ” (Figure 6) in the place indicated on the map. Remains of the House of Anatomy and of the church have been located using georadar in the subsoil under what is today the Museum of Anatomy.

stone (stones, sand and lime), a roof of slate with skylights, several windows and benches to observe the dissection, possibly standing up (Martínez Vidal and Pardo-Tomás, 2005; Carreras Panchón, 2006). It was also reputed to have clean linen, pitchers, cabinets and troughs for the preparation of cadavers (Santander, 1983).

RENEWAL OF THE APPOINTMENT WHEN THE CHAIR BECAME EMPTY

At the end of the three years the contract lasted,

the Chair of Anatomy became vacant, such that on 12 March 1555 the Rector informed the Senate Council of this and that new conditions were to be set up for renewing it.

Two days later the new conditions were specified (14 March 1555) and were very similar to those of the previous time.

The only differences being that the “Lecturas” in anatomy had to be taught at the same time in the Generales classroom of the School of Medicine, where it was already being given and, if not, in another classroom designated by the Rector. If the requisite number of dissec-

tions was not performed, then the professor would be fined. Another difference was that, if at the end of a year one of the 12 bodies destined for dissection remained, the professor would be fined 4 ducats and, if two remained, an additional ducat would be imposed. The anatomist also had to have bodies for dissection paid for by the University, and would be fined if he were negligent in finding material to dissect. He was also responsible of looking for the bodies and taking them to the House of Anatomy, the University providing the necessary permissions and the key to the House of Anatomy, and requiring the anatomist to write everything down in a ledger. It was further provided that he would be fined by the Rector if any mistakes were made. It was stipulated that

on the days dissections were being carried out – five hours morning and afternoon- that all “Lecturas” were to be suspended except Prima, and that dissections were to be performed both on holidays and ordinary days so that the whole body could be dissected in as short a time as possible. Moreover, when anatomy was being practiced this had to be published by the “Generales” and that the same conditions should be respected and fulfilled as when the Chair was originally created.”⁴¹

The conditions were accepted by Cosme de Medina, who regained the Chair (Prieto Carrasco, 1936; Santander, 1999)

REGULATION OF THE RULES SET FORTH IN THE UNIVERSITY STATUTES IN 1561 OR THE

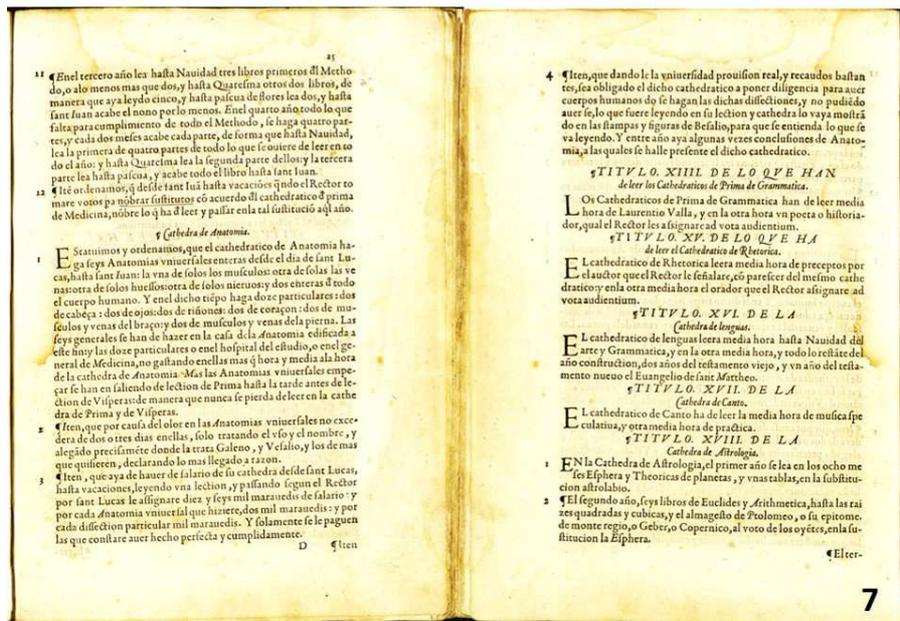
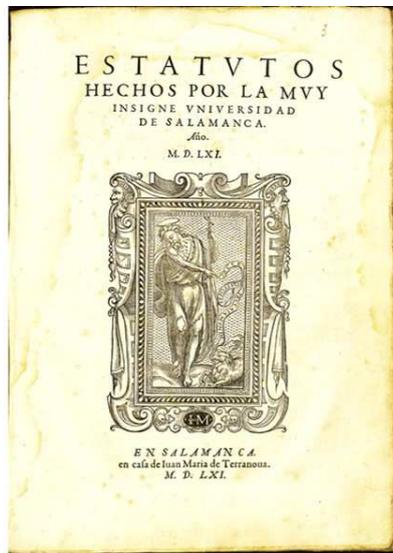


Figure 7. Cover of the 1561 Statutes of the University of Salamanca, known as the “Covarrubias Statutes”. They are today housed in the University Archives. They were published with the authorization of the University itself. Overall there are 67 sections. In Section XIII (of what had to be read by Professors of Anatomy) the regulations to be observed by the Chair of Anatomy can be found.

“DIEGO DE COVARRUBIAS” STATUTES

The University of Salamanca was the first of its kind to set forth in its statutes the rules and regulations concerning the practical development of anatomy. In 1561, the statutes of the University, known as the “Diego de Covarrubias Statutes”, included these stipulations (Figure 7).

In Section XIII, reference is made to medical studies (pp 24-26) in the different Chairs: *Prima*, *Vísperas*, in the morning from ten to eleven, in the afternoon Chair, and ending with the Chair of Anatomy. In particular, the section mainly addresses the studies of Anatomy as a practice, with very little theory. Regarding these studies, there are only four items and only in the fourth is it stated that, if there were no bodies to be dissected, the time should be devoted to seeing what could be seen in the plates and figures of Vesalius, so that the students could follow what was being said. It further added that at some times of the year, and in the presence of the professor, the students should present *Conclusiones*⁴². The whole-body anatomies were reduced to six, which were to be done at the House of Anatomy, while the partial anatomies (“*particulares*”) would be done at the Hospital of the *Studium* or in the *General* of Medicine.

We provide for and order:

1. *The professor of anatomy should perform 6 whole-body anatomies from the feast of San Lucas to the feast of San Juan: one only of the muscles, another only of the veins, another only of the bones, another only of the nerves and two complete ones of the whole body. And in that time he has to do twelve particulars: two of the head, two of the eyes, two of the kidneys, two of the heart, two of the muscles and veins of the arm and two of the muscles and veins of the leg- All six must be done at the House of Anatomy, built for this purpose, and the twelve particulars must be done at the Hospital of the Studium or in the General of Medicine. The professor should not take more than 90 minutes during the Anatomy classes. However, the whole-body anatomies had to start after the “Lectura” of Prima up to the afternoon, before the Vísperas “Lectura” so that there would always be “Lecturas” in the Chairs of Prima and Vespers.*

2. *Owing to the bad smells emanating from whole-body anatomy, no more than two or three days were to be spent on these, dealing with the use and names of the different parts and citing the sources: Galen or Vesalius or any other that might be appropriate, using the most reasonable one.*

3. *It was further specified that there should be a salary for the Chair paying the professor from the feast of San Lucas until the vacations, and*

after San Lucas the Rector should give him sixteen thousand maravedies as a salary for these “Lecturas”; and for each whole-body anatomy performed he should receive two thousand maravedies and for each of the “particulares” 1000 maravedies, although only those considered to be perfect and well done were to be paid.

4. *Also, since the University had royal patronage and sufficient funds the professor must actively seek out human bodies for the dissections and if this were not possible, then he should read his “Lectura” and show the drawings and figures of Vesalius so that the students could understand his “Lecturas”. And along the year there should sometimes be “conclusions” of anatomy, at which the professor had to be present⁴³.*

HOW THE TEACHING OF ANATOMY DEVELOPED DURING THIS PERIOD

According to the available data, taken from the books of the Senates or from other books in the University, the teaching of anatomy developed along two lines: “*Lecturas*” and “*Prácticas*”. The “*Lecturas*” were given in accordance with what was established in the statutes, and we only know that there were problems with regard to when they were given; during most of this period they were done, in accordance with the hours foreseen, from one to two or from two to three in the afternoon, although in the latter part of the century, the professor of anatomy, Agustín Vázquez, and many students asked the Senates (Senate meeting of 3 November 1584) that they be transferred to a more appropriate time since this time of day was a very dangerous moment for people’s health and for students to take advantage of the lessons and also inopportune, such that many students missed classes; this would not be the case if the timetable were changed, it was argued.

Apparently this did not receive much attention since a little later (on 8 February 1585), there was another request for a change of hour, with the explanation that such hours were very bad for health and were no longer supportable. On this occasion, the Senate agreed and changed the time to 9-10 in the *General* of Rhetoric (Alejo Montes, 1998).

Concerning the practical aspects of anatomy or the dissection of human bodies, which was the basis of “Vesalian anatomy”, it must be said that there was always opposition to the “dissection of human bodies” in the University, even though the “House of Anatomy” did exist, and the difficulties involved in obtaining cadavers from the different hospitals, including that of the *Studium*, were manifest. Moreover, there were also problems deriving from the location of the “*lugar para hacer anathomia*”, outside the city, its maintenance, the lack of materials and instruments to perform dissections

and the excessive work heaped upon the professor.

Regarding the number of bodies with which to practise, of the 30 cadavers, or more if there were any, in which anatomy was to be done by the professor when he was awarded the Chair, problems arose because there were insufficient bodies, as explained above, and the number gradually dwindled to the extent that in 1561 there were only 6 bodies for whole-body anatomies and twelve for *particulares*.

Owing to the complaints received by the Senate, in the sense that the students had paid to see the dissections and not many of them were being done, they complained saying: "be it known that in this University we are here to see dissections and winters pass without us seeing them because they are not being done". This must have occurred in 1561 when Cosme de Medina gained the Chair of *Vísperas*.

All this suggests that few dissections were being performed at the time (citations taken from Carreras Panchón, 2006; Muñoz Barragán, 2011; Santander, 1983; Sánchez Granjel, 1989).

As mentioned previously, from the very start there were also problems related to the physical placement and maintenance of the House of Anatomy. According to Santander (1983), it seems that, once the amphitheatre had been constructed, the University designated a presbyter to look after the church of San Nicolás and its annexes, and to read mass for the people buried there, among them for those dissected in the House of Anatomy. In this sense, on 18 May 1555, the Rector and Dr Alderete were commissioned by the Senate to send someone to clean and prepare the houses and the Anatomical theatre.

Somewhat later, on 12th July 1555 the Senate Board ordered the repair and cleaning of the church, which had been invaded by bats and vermin.

On 8th August 1555 the Deputies Senate was asked to intervene to look after matters in Anatomy, including fuel for heat in winter and clean cloths and buckets, vessels and bowls which to date were absent in the church

Moreover, in 1559 the people living close to the church of San Nicolás asked the University to clean the street since it was unpaved and full of mud and very dirty, and this irked them as it did the students on their way to see the dissections of anatomy. The street also hosted the funeral processions accompanying the deceased being taken from the hospital of the *Studium* to the church of *San Nicolás*.

In 1593, the same professor of Anatomy asked the Senate for an assistant to help him, because he had a lot of work. The senate decided to give him one to help in the dissections and to become sufficiently familiar with anatomy and dissection, and for this position the "*Licenciado*" Ruiz was

nominated. Once this had been approved by His Majesty, Ruiz was assigned a salary of 15,000 maravedís to help the professor and perfect his own techniques in anatomy. In fact, a little later, at the beginning of the 17th century, the professor of anatomy at the time asked the Senate that special instruments (of iron) be made to dissect and to perform anatomy. His request was granted, although it is also known that after such approval nothing was done, because the professor who replaced him later insisted on purchasing them and actually denounced the lack of *instruments for dissection*. The professor also said that the General Hospital of the city was reluctant to provide him with material for dissections. Despite these problems, at the University of Salamanca whole-body dissections and *particulars* did manage to get done. Alejo Montes and Rodríguez García (1994) reported that according to several documents related to visits made to the professors (following the specifications of the statutes to see whether they were fulfilling their missions and, if not, imposing the corresponding sanctions) asking students whether the corresponding dissections had been done (Book of Visits to Professors), several testimonies in the affirmative were given for the year 1575-1579. As examples, in the 1578-1579 period the students said that from San Lucas up to mid-February six *particulares* had been done: one of a head, another of an eye, a larynx, an arm, a kidney and a leg. They added that three whole-body anatomies had also been done two on men and one on a woman.

There are other references that corroborate that the dissections were done. People came to Salamanca to learn, by dissection, more about the human body, such as the case of Juan de Arfe⁴⁴ who, apart from his profession, was also devoted to the study of the human body, and in order to further his knowledge he came to Salamanca (when Cosme de Medina was the professor) to complete his education by seeing dissections of the different parts of the bodies of executed men and women and of poor people. He went on to publish the first book in Spanish about artistic anatomy (Sánchez Granjel, 1989; López Piñero and Jerez Moliner, 1996). Another reference was to Francés Micó⁴⁵, a Catalanian who had studied medicine (and had also studied anatomy) in Salamanca with Cosme de Medina, and in Guadalupe he performed dissections with Dr. Hernández to gain experience by attending practical courses in medicine, surgery and dissection. And according to López Piñero (1974), the change that was introduced into dissections was due to the incorporation of the Vesalian reform, assimilated by Micó under the supervision of Cosme de Medina. Other references, according to Martínez-Vidal and Pardo-Tomás (2005), refer to the work of López Piñero and Tarrada Fernándis (1965) and mention the autopsies performed in Zaragoza during the epi-

demic of 1564, carried out by Porcell, who had been in Salamanca with Alderete and Cosme de Medina.

A popular figure in Salamanca was “a certain Pedro”, who was responsible for transferring the deceased from the hospitals, mainly the Hospital of the *Studium*, to the House of Anatomy. It is said that people would point him out on the street: “Look, there goes Pedro, the body man!” (Málaga Guerrero, 2013).

REGULATION OF THE NORMS SET FORTH IN THE STATUTES OF THE UNIVERSITY OF SALAMANCA OF 1594, KNOWN AS THE ZUÑIGA STATUTES

Thus we arrive at the end of the 16th century, when in 1594 the new statutes of Zúñiga were introduced. These further detailed the development

of anatomy. The “*Lecturas*” in medicine are addressed in the thirteenth section (pp 19-23). The “*Lecturas*” of the Chairs of *Prima*, *Vísperas*, from ten to twelve, of *Método*, of *Simples*, of surgery and of anatomy are specified. Regarding studies of anatomy, these can be seen in Figure 8. In the “*Lecturas*” Galen was followed, in particular “*usu partium*”, and emphasis was placed on the fact that other books should not be used since the *usu partium* contained all there was to know about anatomy. A striking note was the specification of the *particulares* (which had to be done during the hour of the Chair, probably from 9 to 10, as mentioned before) and the whole-body dissections. Of the six, the first four had to have been completed by Easter at the end of Holy Week, in other words at the end of winter, and they had to be done at the House of Anatomy. The other two were to be done at the hour of the Chair and corresponded to

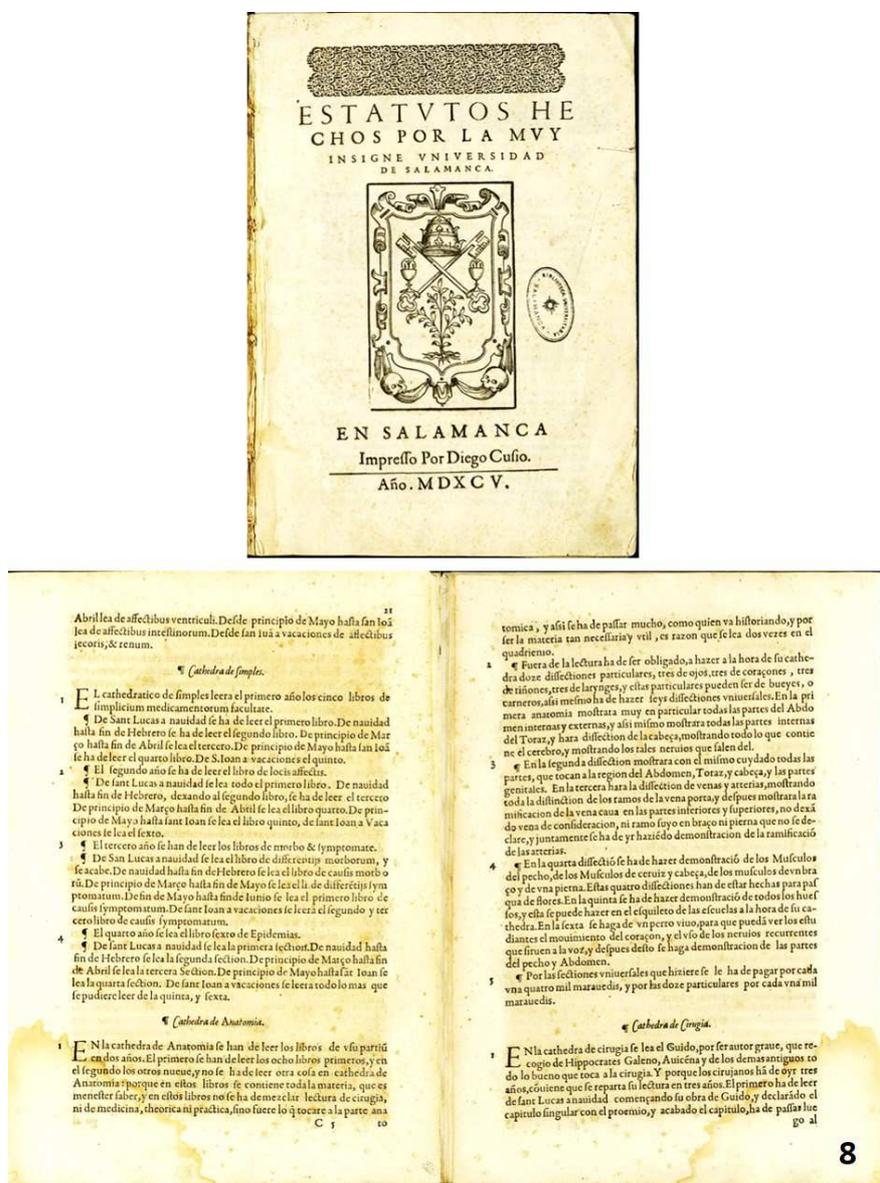


Figure 8. Cover of the 1594 Statutes of the University of Salamanca known as the “Zuñiga Statutes”, published in 1595. They are housed in the University Archives. They were published with the authorization of the University. Overall there are 68 Sections. The bottom of the image shows the regulations to be followed by the Chair of Anatomy.

the skeleton and the second, possibly at the Hospital of the *Studium* or at the House of Anatomy.

1. At the Chair of anatomy, the books of *usu partium* should be read in two years. In the first year the first eight books must be read and the other 19 in the second year. No more should be read at the Chair because in these books the students could find all the information they needed and in them there was no mixing of the "*Lecturas*" in surgery, theoretical medicine or practical material, except those touching on anatomy because anatomy was necessary and useful and would benefit from the "*Lecturas*" being read twice in four months.
2. Apart from the "*Lecturas*", at the hour of the Chair twelve *particulares* had to be completed; three of the eyes, three of hearts, three of kidneys, three of larynxes and these *particulares* could be practiced on oxen or rams. Six full-body dissections also had to be performed. In the first dissection the professor had to show the details of all the parts of the abdomen, internal and external, and at the same time show all the internal parts of the chest and had to dissect the head, showing everything in the brain and showing the nerves emanating away from it.
3. In the second dissection the professor had to show, with the same care as before, all the parts forming the regions of the abdomen, chest, head and genitals. In the third he had to perform a dissection of the veins and arteries, pointing out all the branches of the portal vein and then show the branching of the vena cava in the lower and upper parts, not out leaving out any important vein and its branches in the arms and legs. It was added that the branching of the arteries also had to be addressed.
4. In the fourth dissection the professor had to address the muscles of the chest, of the neck and of the head; the muscles of an arm and those of a leg. These four dissections had to be completed before Easter. In the fifth, all the bones had to be revealed and this could be done in class with the skeleton in the schools at the hour of the Chair. In the sixth, the professor had to dissect a dog so that the students could see the beating of a heart and one of the recurrent nerves (RLN) that serve the voice. After this, a demonstration of the chest and abdomen had to be done.
5. For each of the whole-body dissections made, the professor was to be paid four thousand maravedies and received one thousand maravedies for each *particular*⁴⁶.

In light of all the above, we can say that Vesalian anatomy was introduced into Spain by the university of Valencia, then expanding to a greater or lesser extent to the Universities of Salamanca,

Valladolid and Alcalá. Salamanca was the university where norms appeared for the first time in the university statutes. Likewise, it was in Salamanca where the first amphitheatre or permanent House of Anatomy was built.

END NOTES

¹Former Professor of Anatomy, University of Salamanca.

²Professor of Anatomy, University of Salamanca.

³1499-1559. He was born in Segovia (Spain) and began his studies in the Arts in Salamanca, later graduating in medicine in Paris. In Spain he taught at the University of Alcalá and Toledo.

⁴(1500?-1556). He trained as a physician and anatomist at the universities of Paris and Montpellier. In Valencia he held the Chair of *Anathomia y Simples*. He was critical of some Hippocratic texts and although he was in agreement with Vesalius he did not accept the latter's criticisms of Galen.

⁵(1510-1551). He trained in Italy and at Padua he followed the teachings of Vesalius. He held the Chair of *Anathomia y Simples* in Valencia. He then moved to the University of Alcalá, where he also taught anatomy. He wrote a book on anatomy in Latin, following the Vesalian school.

⁶(1520-1589). He studied medicine at Valencia. He learned how to dissect human bodies with Vesalius. After holding the Chair of *Anathomia y Simples* at the University of Valencia he held the post of *Practicas*, created for him. He is attributed the description of the stirrup (stapes), possibly together with his disciple Cosme de Medina and even with his forerunner Pedro Jimeno.

⁷(1520-1587). He was born in Granada and trained in the practical teaching of anatomy in Italy. He taught anatomy at Valladolid without being a physician, since he finished his degree in Sigüenza (Spain) and left as a surgeon and anatomist for Portugal, where he practised as the Chamber Physician to Queen Catherine.

⁸(1480-1558). He was physician and surgeon to the Emperor Charles V. In 1551 he wrote a book on human anatomy. He translated the work *Cirurgia Magna* by Guy de Chauliac, which contained a large first part addressing anatomy. At the University of Salamanca, the work was known as the "*Cirurgia de Guido*".

⁹(1525-1587). Juan Valverde was born in Amusco (Palencia, Spain) and died in Rome in 1587. He trained in Italy and practiced there as a physician. He wrote a book in Spanish entitled "*Historia de la composición del cuerpo humano*".

¹⁰(1517?-1578). Francisco Hernández was born close to Toledo (Spain) and died in Madrid. He studied at the University of Alcalá and practiced medicine at the Monastery of Guadalupe. He was physician to Vesalius when the latter was in Spain. He performed anatomical dissections following the Vesalian School.

¹¹The Chair of Prima and the Chair of Vísperas were the Chairs existing in the Spanish University up to the 16th century, and where the lessons corresponding to the most important materials of each subject were taught. Within both, the Chair of Prima was more important. Classes in *Prima* lasted for 90 minutes, while the rest were of one hour. There were then other classes, from ten to eleven, from twelve to one, etc. Alternatively, they were known as "by materials" or "by authors",

as would be the case of those of *Articela*, of Anatomy, of Surgery, etc.

¹²El catredatico de prima de medicina lea Avicena la parte que los oyentes le demandaren o los más dellos. Cada estudiante médico, despues del bachiller en Arte, o ya los dos años primeros cursados en su Medicina una lició delas catedras de pilosophia natural de las escuelas mayores o qualquierdellas y sin ellas no sea admitido al grado de bachiller en Medicina. Después quel estudiante médico uviere oydo tres cursos en medicina platique medio año cursando con alguno de los doctores o licenciados de la Universidad o catredaticos en ella y no antes en su facultad antes que sea bachiller; y sin provar este tiempo de plática no se le de el grado”.

¹³See: endnote 11.

¹⁴An amphitheatre where the dissection of human cadavers was performed at the University of Salamanca

¹⁵The University was governed by its Senates: that of *consiliarios*, which was involved in the calls for vacant Chairs; that of *Diputados*, presided by the Rector and the *Maestrescuela*, was formed of all the *Diputados*. It usually involved 20 people: 10 professors (Chairs) and 10 nobles or worthy persons, degree-holders, Bachelors or students, although all of them older than 15. They were chosen by the outgoing Rector and *Maestrescuela* and their duty was to look after the business dealings of the University. This was the Senate that held the most meetings and hence was known as the *Claustro Ordinario*. Such meetings dealt with affairs such as salaries, rents, retirements, loans, etc. There was also the *Claustro Pleno*, formed by the Rector, the *Maestrescuela*, Doctors, Chaired Professors, Deputies, *Consiliarios* and eight students (this was its Governors' Board). The Chaired Professors were obliged to attend the Senate meetings, which were very frequent in the 16th century and were usually held on Saturdays and Sundays and were always presided over by the Rector. In these meetings the various parties dealt with important matters such as the requests that had to be conveyed to the King, disputes and changes in the Statutes.

¹⁶Statutes of the University of Salamanca, called “the Covarrubias statutes”. They had 67 sections regulating all University life. They include a detailed description of what was to be done at the Chair of Anatomy.

¹⁷Statutes of the University of Salamanca, called “the Zúñiga statutes. They had 68 sections and the duties of the Chair of Anatomy were detailed. The final section of these Statutes forbade the *Maestrescuela* and the Judge from selling clothes or books to students, and for students of Medicine it specified the works of Galen, Hippocrates and Avicenna.

¹⁸“juntar a los médicos y cirujanos y maestros en Artes de la Universidad para tratar: lo tocante a la provisión del consejo real acerca de la anatomía que sus majestades piden que se vea y confiera si será cosa provechosa que se haga en estos reinos como dicen que se hace en otros reinos”

¹⁹Como Galeno y otros escriben ser muy necesaria ver la anatomía por vista de ojos para saber conocer las enfermedades e curarlas; e por quanto la anatomía que esta escrita en los libros es como figura o pintura de la anatomia real que se hace en los cuerpos muertos, ansy es cierto que muy mejor se conoce viendo la propia cosa realmente que no viéndolas cripta ni pintada.

Por quanto en los libros que están escritos de anatomía están escritas opiniones y errores los cuales si se

viese la anatomía realmente por los ojos se averiguaría lo que es verdad e lo que es horror. Por quanto las señales e curas de las enfermedades aunque están bien escriptas en los libros no bastan para curar perfectamente e si no se ven las enfermedades por vista de ojos o se exercitan en ver los curar ansy mismo no basta la anatomía escripta sino se bee por la vista de ojos; por las cuales razones dijo que en Dios y en su conciencia le parece ser muy necesario ansy a los médicos como a los cirujanos que lo vean por vista de ojos hacer anatomías y muchas anatomías e que de hacerlo ansy resultaría muy gran proveecho a toda Espanha ansy en conocer como en curar todas las enfermedades de fisica e de cirujia.

²⁰Que aviendo echo diversas veces que se juntasen personas doctas en çiença de mediçina e de cirugia e aviendo entre si conferido e practicado sobre lo contenido en la dicha provision real, a la mayor parte de los medicos y cirujanos parescio cosa muy conveniente que ubiese la dicha anathomia e se hiciese por ser cosa provechosa y necesaria.

²¹The first Professor of Anatomy of the University of Salamanca. He was from Valencia and must have been born around 1522. In Valencia he worked with Luis Colado and, it would appear, participated in the discovery of the stirrup bone (stapes), together with his maestro. Upon arriving in Salamanca, he was not yet a Bachelor of Medicine since this was not to take place until 1553 in Valladolid and he was simply known as an “anatomist”. He then went on to become a degree-holder (*licenciado*) and Doctor at the University of Salamanca. In 1557 the “*Articela Chair*” became vacant and he went on to occupy both Chairs and the University Senate (the *Pleno*) deliberated to see whether Cosme de Medina could hold this Chair (*Articela*) without foregoing that of Anatomy, and according to a majority vote (owing to his great prestige) it acquiesced and Cosme began to hold both Chairs, with a salary of 15000 *maravedíes*, in addition to his salary as an anatomist. Later he went on to hold the Chair of *Visperas* and finally became *Prima* Professor of Medicine and a physician at the Hospital of the *Studium* (Univ. Salamanca). In 1581, the University allowed him to retire and he died in Salamanca 10 years later.

²²The day on which the school year of the University of Salamanca began; it ended on 8th September, the feast of the Birth of the Virgin Mary.

²³A coin used in Castile & Leon (perhaps of Arabic origin) since the end of the 12th century, used by King Alphonse X. Its use was later regulated in the times of Ferdinand and Isabella, Charles V and Philip II in the 15th and 16th centuries. It remained in use up to the first half of the 19th century. There were *maravedíes de vellón* (an alloy of copper and silver), of gold and of silver. It is difficult to say how much a *maravedí* was worth in the 16th century. Some say that with 20,000 *maravedíes* a year a family could consider itself as middle-lower class and with 40,000 as middle-upper class. We know that Cosme de Medina managed to obtain 40,000 *maravedíes* for his work as Professor of Anatomy; that he was later given more *maravedíes* for dissections. Additionally, he was paid the two salaries and later obtained the Chairs of *Visperas* and *Prima* owing to their prestige and for their profitability.

²⁴A way of describing the way of reading from the Chair: no breaks, no interruptions. Since the beginning of the University, teaching was based on three activities: a master lesson (“*Lecturas*”), repetitions, and *disputas*,

or conclusions. The Professors had to explain the lesson *de arreo* (uninterruptedly) so that he could finish his “*Lecturas*” within the time prescribed. In the life-long Chairs the Professor would give his “*Lecturas*” at the due hour and a reader, sitting under the Chair, would read the corresponding text, which was later commented on by the professor. The *repeticiones* or *conferencias* were given by the professor or by bachelors aspiring to the degree of *licenciado* before the corresponding Faculty. The *conclusiones* or *disputas* were complementary to the explanations in order to facilitate the learning and memorization of the material in hand. They were organized for feast days or Thursdays and were given by a bachelor or final-year student.

²⁵Tres muestras e liciones en el corredor de la parte alta del edificio: La primera, de cinco a seis, de rreñones e bejiga en un carnero que el carnicero del Estudio debía llevar para ello. La segunda, a la hora de las dos del día siguiente, realizaría ejercicio de eserçion en un corazón y en un ojo de un carnero en los corredores lugar situado. La tercera, en el mismo día, el Licenciado Medina, después de comprar un puerco a costa de la Universidad debía hacer exercion.

²⁶Also known as Notary or Secretary. He was responsible for all university documents and minutes. He announced Chair vacancies, Degrees, etc. He was also charged with writing down everything that happened in the University and, thanks to him, many agreements can be consulted in the minutes book of the University Archives (AUS).

²⁷“En el hospital del estudio leyo de arreo durante varios dias (dos o tres) algunas liçiones de anathomia. Doy fee como en los corredores de las Escuelas mayores se pusieron muchos bancos e sientos para donde se asentasen los señores de la universidad para ber hacer la anatomia la cual yo el dicho notario vi hacer dos o tres días arreo donde estaban muchas personas de la universidad asi doctores e maestros y estudiantes de manera que había tanta gente a la ver hacer e leher que apenas podían ver muchas en que se hacia mas de que la oian leer y practicar”

²⁸Those used for the teaching of anatomy were mainly two: ·“*De usu partium*” and *De anatomicis administrationibus*.

²⁹A version of the work “*Cirurgía Magna*” by Guy de Chauliac (also known as “Guido” or “Guigo de Cauliaco”), which contained an ample first part on anatomy. It was explained from the Chair of Anatomy and Surgery at the University of Salamanca and many other universities of the times. Guido was translated by Bernadino Montaña.

³⁰Lo primero que ha de leher al principio del año es la anathomia de Galeno comenzando por la materia del vientre e los miembros todos ynteriores en el contenidos e prosiguiendo después las materias que se trata en todos los otros miembros fasta ser acabado el anathomia de todos los miembros del cuerpo e lo restante del año lea cirujia de Guido.

. que la lición de anathomia que ha de leer la lea siempre de una a dos en ynvierno y de dos a tres en verano en el general de sexto donde se lee astrología.

³¹que sea obligado a hacer su anathomia en todos los meses del año oportunos conforme al miembro.

Para ello que todos los cuerpos humanos de justiciados e pobres de espitales en que pudiese facer se faga e que faltando cuerpos humanos lo haga en otros cuerpos e sojectos que se le dieren e que la universidad pague

la costa si alguna ubiere

Que por lo menos faga en cada un año anathomia en treinta cuerpos humanos o en otros en sul ugar e que si mas cuerpos le diesen que en mas lo faga; en la anathomia de estos cuerpos treinta se detenga tantas liçiones asi en el leher como en el cortar como fuese menester

que en los días que hiciese exerciones en los cuerpos humanos lea y corte cinco horas entre mañana y tarde

que cuando hubiera cuerpos humanos en que se pueda hacer anathomia y eserçion el dicho licenciado sea obligado a poner e hazer diligencia y procurar aver los cuerpos e faltando cuerpos humanos en otros cuerpos

se comete a los sres rector, viceescolastico e thesore-ro y a los drs juan de aguilera y alderete e para que asi mismo vean e señalen el lugar donde se podrá hacer el egercicio de anathomia

Con las cuales dichas condiciones e con cada una de ellas e cargas le probeyeran el dicho salario de quarenta mil maravedis al dicho licenciado medina por dichos tres años conforme a los dichos claustros los cuales dichos tres años mandaran que le començaren a correr e corran desde diez días del presente mes de marzo deste presente año de 1552 en adelante.

³²“leçençia y facultad para que en cada un año se puedan tomar tres cuerpos para azer anathomia de los que se consideren por delitos graues a pena de muerte y se executare en ellos la sentencia o de los que murieren en algún espital quales les pareciere que mas combiene a los médicos de la universidad”.

³³The upper part of the University building, located on the northern side, which at the time was roofless.

³⁴Since 1415, two floors had been built on the northern side of the building, communicating with each other only partially by a humble spiral staircase. The building had two large classrooms, known as “*Generales*”, where Theology and Canon Law were taught. The building was then further expanded and each School was accorded a classroom that was eventually used as its own “*Generales*”.

³⁵In 1413, King John II gave the University some houses that had previously belonged to some Jewish people so that it could build a hospital for the poor students of the *Studium*. Its first name was the Hospital of Santo Tomás. The patients who died there were buried in the Church of San Nicolás.

³⁶The church or hermitage of San Nicolás was founded by the City Hall in 1180 next to the River Tormes. At the beginning of the 15th century the Bishop of Salamanca and the Dean of the Cathedral donated the church (together with its cemetery and hermitage house) to the University for the burial of students who had died in the hospital of the *Studium* and the “*House of Anatomy*” was built next to it. The church was ruined in 1626 in the flooding known as the flood of San Policarpo. The flooding also affected the House of Anatomy. The House of Anatomy survived until the end of the 18th century.

³⁷Que agan açer un edefiçion en el lugar donde se açer la dicha anathomia, junto a san Nicolas, e que para dicho edificio todos los maravedís que fueran necesarios los puedan librar y libren el açedor del dicho estudio.

³⁸Que puedan pedir a la ciudad suelo e lo necesario para todo lo sobredicho, que sea junto a san Nicolas, e al obispo o a suprovisor e a la clereçia liçençia o lo que fuere neçessario para lo sobredicho.

³⁹In the Catholic Church the Cathedral Council was a Council of Priests in the service of the Bishop.

⁴⁰Un cantero el cual hizo la casa de la anathomia e pidió a sus mercedes le manden pagar e que si quisieren que se tornase a tasar otra vez. Le mandaron salir luego de dicho claustro e proveyeron que den libramiento de los que pareciese deberle a dicho cantero Martin Navarro e a que no se vuelva a tasar el dicho edificio.

⁴¹La lección de Anatomía que a de leer la lea a las mismas horas, en el General de Medicina donde al presente lee o en otro que le fuere asignado por el señor rector.

Si no lleva a cabo las disecciones encomendadas debe ser multado.

Que si al cabo de un año faltare de dissecar algún cuerpo humano de los doze de la anathomia universal que sea multado por la falta del dicho cuerpo en cuatro ducados y si faltaren dos cuerpos un ducado más.

Debe, además, el anatomista a tener cuerpos para hacer la anatomía con cargo a la Universidad y se le multe si hubiera cometido defecto alguno.

Quel dicho anathomista sea obligado a costa de la Universidad a buscar los dichos cuerpos e azerlos llevar a la casa de la Anatomia dándole la Universidad copia authorizada de la provision y mandamientos necesarios y llave de la cassa y se ponga esto en el libro de visitas y quel señor rector le mulcte quando ubiere cometido defecto.

Que en los días que hiziere disecciones (cinco oras mañana y tarde) ... "que cessen todas las lecciones excepto de prima y que corte en días feriados e no feriados continuos porque se acabe mas en breve la disecction de todo el cuerpo.

Que el señor rector en la visita que hiziere aga executar todo lo sobredicho por las faltas que hiziere de las disecciones e por cada una de ellas.

Que cuando obiere anathomia se publique por los Generales e que todo esto se guarde y cumpla no obstante las condiciones fechas quando esta cathedra se crio y se statuyo nuevamente.

⁴²See endnote 24 (de arreo)

⁴³See figures 7 and 8 to see in renaissance Spanish the dispositions in the "Estatutos"

⁴⁴(1535-1603) He was a jeweller, born in Leon (Spain) who wrote the first treatise of Artistic Anatomy: "*De varia conmesuración para la Esculptura y Architectura*", published in Seville in 1585. This studies the measurements and proportions of the human body, including the bones and muscles and featured an extraordinary set of images.

⁴⁵He was Catalanian (Vich, 1528-Barcelona, 1576). He studied medicine in Salamanca. After some years in Guadalupe, he practised in Barcelona, dying in 1576)

⁴⁶See figures 7 and 8 to see in renaissance Spanish the dispositions in the "Estatutos"

REFERENCES

ALEJO MONTES J. (1998) La Universidad de Salamanca bajo Felipe II. 1575-1598. pp: 131-134. Junta de Castilla y León. Consejería de Educación y Cultura.

ALEJO MONTES J, RODRÍGUEZ GARCÍA MC (1994) Los estudios de la Facultad de Medicina en la Universidad de Salamanca de finales del siglo XVI. Espacio, Tiempo y Forma, Serie IV, Hª Moderna, t.7: 37-50.

BARCIA GOYANES JJ. (1994) El Mito de Vesalio. Real Academia de Medicina de la Comunidad Valenciana. Universitat de València.

CAMPILLO ALVAREZ JE (2010) Francisco Hernández: A las puertas del Nuevo mundo. Crónicas, nº 16, 7-11.

CARRERAS PANCHÓN A. (2006) La Medicina, siglos XVI-XIX. En: Historia de la Universidad de Salamanca. Vol. III.I. Saberes y confluencias, Rodríguez-San Pedro Bezares LE.(Coord.) 303-344. Ediciones Universidad de Salamanca,

DORADO B. Historia de la ciudad de Salamanca. Corregida en algunos puntos, aumentada y continuada hasta nuestros días por varios escritores naturales de esta ciudad (1861) pp 115-116. Imprenta del Adelante, a cargo de Juan Sotillo. Editor: Ramón Girón.

Estatutos hechos por la muy insigne Universidad de Salamanca. Año MDLXI. Salamanca en casa de Juan María de Terranoua. Catedra de Anatomia: 25-26. AUS.

Estatutos hechos por la muy insigne Universidad de Salamanca. Año MDXCV. En Salamanca, Impreso por Diego Cufio. Catedra de Anatomía: 21-22. AUS

LAIN ENTRALGO P (1973) Los saberes morfológicos en el Renacimiento: La Anatomía. En Historia Universal de la Medicina. vol IV, 45-81, Editorial Salvat.

LÓPEZ PIÑERO JM (1974) La disección y el saber anatómico en la España de la primera mitad del siglo XVI. Cuadernos de Historia de la Medicina Española, 13, 51-110.

LÓPEZ PIÑERO JM (1979) The Vesalian Movement in Sixteenth-Century Spain. J His Biol, 12, 45-81.

LOPEZ PIÑERO JM (1996) La tradición morfológica valenciana. Arch Esp Morfol, 1: 59-67

LÓPEZ PIÑERO JM, Jerez Moliner (1996). Clásicos españoles de la Ilustración morfológica. I. El "Libro" anatómico de Juan de Arfe (1585) y su reelaboración en 1806. Arch Esp Morfol 1:9-21

LÓPEZ PIÑERO JM Y TERRADA FERRANDIS ML (1965). La obra de Juan Tomás Porcello (1565) y los orígenes de la anatomía patológica moderna. Medicina Española 52:237-250.

LÓPEZ PIÑERO JM, JEREZ MOLINER F, MARTÍNEZ-ALMAGRO A (1997) La Anatomía prevesaliana en Valencia y el movimiento vesaliano: Pedro Jimeno y Luis Collado. Clásicos morfológicos valencianos: Del Renacimiento al siglo XIX. Arch Esp Morf. Número extraordinario, 6-12.

MÁLAGA GUERRERO J (2012) Relatos y sucesos para pasear Salamanca. Hergar Ediciones Antema.

MARTÍNEZ-VIDAL A, PARDO-TOMÁS J (2005) Anatomical Theatres and the Teaching of Anatomy in Early Modern Spain. Medical History, 49: 251-280.

MONTEMAYOR G. Los paradigmas en la enseñanza de la anatomía humana. Rev. Fac. Med. UNAAM, 42, 1999.

MOXHAN BJ, PLAISANT O (2014) The History of the Teaching of Gross Anatomy! How we got to where we are! Eur J Anat, 18: 219- 244.

MUÑOZ BARRAGÁN L (2001) De los orígenes de la enseñanza de la Anatomía en Salamanca. Universidad de Salamanca. Servicio de Archivos y Bibliotecas. Libro editado con motivo de la Exposición bibliográfica sobre los estudios de Anatomía en Salamanca.

- PRIETO CARRASCO C (1936) La enseñanza de la Anatomía en la Universidad de Salamanca. Comunicación que presenta al X Congreso de Historia de la Medicina. Editado por Sánchez Granjel L. Ediciones Universidad de Salamanca. 1986.
- RODRÍGUEZ DE DIEGO JL (2006) Provisión de Carlos V instaurando Cátedra de Anatomía. En Facultad de Medicina de Valladolid, VI Centenario, p 79. Junta de Castilla y León.
- ROJO VEGA A (2006) Bernardino Montaña de Monserate. En: Facultad de Medicina de Valladolid, VI Centenario, p 80. Junta de Castilla y León.
- SÁNCHEZ GRANJEL L (1980) Historia de la Medicina Española. La Medicina Española Antigua y Medieval, v.I. La Medicina Española Renacentista, v. II. Ediciones Universidad de Salamanca.
- SÁNCHEZ GRANJEL L (1989) Los estudios de Medicina en Salamanca. Ed. Real Academia de Medicina de Salamanca. Europa Artes Gráficas. Salamanca.
- SANTANDER T (1983) La Iglesia de San Nicolás y el antiguo teatro anatómico de la Universidad de Salamanca. CSIC. Revista Española de Teología 43, 253-273.
- SANTANDER T (1999) El Dr Cosme de Medina y su Biblioteca (1551-1591). Centro de Estudios Salmantinos. Consejo Superior de Investigaciones científicas.
- SANTANDER T (2006) La Iglesia de San Nicolás y el antiguo Teatro Anatómico. Historia de la Universidad de Salamanca. Vol. III. I. Saberes y confluencias. Rodríguez-San Pedro Bezares LE. (Coord.) pp 345-360.