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THE MONDINO MYTH.

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TO a physician who is at all interested in the history of the development of medicine, the old Italian universities will ever afford a most interesting field of study and regard. The heroic age in medicine was lived beneath Italian skies. How many of the men who were the creators of medical learning lived in Italian cities? In Padua, Vesalius, Columbus, and Fabricius of Aquapendente taught; Harvey studied; and Galileo, after he had exchanged Hippocrates and Galen for Euclid and Archimedes, carried on his researches into the constitution of the universe.

At Pisa, Cesalpinus taught, and Galileo studied. At Salernum, whose school of medicine was cradled in the cloisters of the monastery of Monte Casino, and was fostered by the Normans during their rule over southern Italy and Sicily, medical learning was developed to its highest degree, and achieved its greatest reputation during the times of the Crusades, when it healed the wounds and cured the diseases of cross-bearing knights and potentates. Salernum preserved and taught the elements of medicine, as transmitted through the Arabians, from the seventh to the fourteenth centuries during which period it was the chief seat of medical learning in the civilized world. Its history remains as one of the most brilliant and interesting chapters of the Dark Ages.

When Salernum had already begun to decline, and Padua was in its infancy, the school of Bologna was at its apogee. Begun in the middle of the eleventh century with schools of sacred letters and civil and canonical law, by the close of the thirteenth century there had been added schools of medicine and philosophy; and to it had been attracted in a single year, not from Italy alone, but from every part of Europe as far north as the British Isles,

ten thousand students. To Bologna was assigned the rare privilege of connecting the old learning and the new, and of occupying a place of equal prominence in each. Its medical school, however, belongs to the new, for it begins with the date 1260, when Taddeo di Alderotto came from Florence and began the teaching and practice of medicine in Bologna.

Taddeo was one of those men who have the gift of impressing those with whom they come in contact with exalted ideas of their worth and attainments. He seems to have burst upon the Bolognese in full-orbed splendor, for of his previous training and career there is no record, even his parentage is a matter of dispute. Settled in Bologna, he acquired in a short time extraordinary celebrity and immense riches. He was easily the first citizen of the city, whose fame shed glory on all his compatriots; they heaped honors upon him as a benefactor of the community, even so far as to vote that he should be relieved from the burden of paying taxes to the commonwealth, in which we see a suggestion of the modern practice of relieving churches and hospitals of taxation. To the school of medical teaching, which he instituted, the City Council granted all the privileges, which up to that time had been allowed only to the teachers and students of law, with which older schools that of Taddeo was thus placed upon an equal footing.

The contemporary historian, Giovanni Villani, speaks of him as "The greatest physician in Christendom;" and Dante, who spent some time in Bologna, shortly after the death of Taddeo, before he wrote the "Divina Commedia," must have found the spirit of Taddeo still dominant, for when (del Paradiso, Canto XII, v, 83) he would contrast the spiritual aim of St. Dominic with that of men of more earthly mold, Thaddeus' name flows from his pen, thus:

"Not for the good of this world for which men now toil, following him of Ostia and Thaddeus, but for love of the true manna, he (Dominic) became in short time a great teacher." (Translated by Norton.)

Taddeo was not only an influential man of affairs, a physician of high repute and a teacher of great power, but he was a philosopher and an author. It was he who first made use of the writings of the ancient philosophers in commenting upon the works of Hippocrates and Galen; he translated the "Ethics" of Aristotle; he exhausted the erudition of the Arabs. To the spirit which from his professorial chair he infused into the teaching and

study of medicine, undoubtedly is due the high position which, for many generations thereafter, the school of Bologna continued to maintain as a centre of medical teaching. It needs no great stretch of the imagination to picture somewhat of the effect that contact with such a man might have in molding the character of his young neighbor and pupil, the chemist's son, who, a few years later, by his devotion to the study of human anatomy was to re-establish the practical pursuit of study on the human cadaver as the common privilege of the skilled physician, and was to establish his own name ineffaceably on the records of medicine.

Any comprehensive attempt to trace the real influences to which was due so great a step as a return to the practice of dissections of the human body, seems to me must be very defective if it failed to take into consideration the influence of such a man as Thaddeus. That he was able to impress himself in the way in which history records that he did, both upon the general public and upon the scholastic foundations of Bologna, shows a strength of character and a mastery of the peculiar conditions of the moment in the fields of science and philosophy which made him a master and an inspirer. If, as no one denies, the knowledge of the structure of the human body in a most minute degree is the foundation upon which all rational medicine and surgery must be built, then it is impossible to exaggerate the importance of the pivotal moment when, in the development of science, the human body began to be anatomized. Nor is any fault to be found with that custom which has crowned with the laurels of universal appreciation the names of those men who began and who continued anatomical study, who vulgarized the practice of dissection.

In my own investigations and reflections upon the conditions which led up to this happy renewal of scientific search into the composition of the body of man, it has seemed to me that writers have hitherto fallen short of tracing through to its ultimate source, the earlier spirit of enthusiasm for knowledge, of insight into the problems of disease, and of contempt for traditionary shackles, to the influence of which, as shown by the master, Taddeo, the later work of the pupil, Mondino, was in great measure due.

During the early years of the Renaissance, the glory of the University of Bologna was its school of medicine, and the glory of the school of medicine was its teaching of anatomy. As the

restorer of anatomy, Mondino has ever received universal acclaim. Special interest must therefore attach to an attempt to search out somewhat more fully the underlying causes and influences which led this particular Bologna professor to this special work.

He was born at a time when everywhere throughout Italy free thought was being awakened, curiosity and speculative audacity were being encouraged, and the pursuit of learning new things had seized upon all classes. There is no figure in all history that represents this spirit more fully than Frederick II (1194-1250), King of Sicily and Emperor of the Holy Roman Empire, the indomitable, the learned, the law-giver, patron of the arts and sciences, warrior and statesman. For nearly fifty years he was the dominant figure in the life of Italy.

In his spirit, in his work, in his methods, we see illustrated and focalized that spirit which, diffused over the country as a whole, brought into the world, in the same generation, Giotto in art, Dante in literature, Thaddeus in medicine, and, in the succeeding generation, Boccaccio, Petrarch, Mondino. It was, then, as a part of the newly awakened freedom of thought and spirit of investigation into all learning that the pursuit of anatomical study naturally arranged itself, and in the fullness of time began to be practiced.

We are accustomed to think of the practice of dissection as having been recreated by Mondino, and at once, fully developed, springing into acceptance. The year 1315 is the generally accepted date for the first public anatomical demonstration upon a human body made by Mondino, and yet it is true that among the laws promulgated by Frederick II., more than seventy-five years before (A. D., 1231), was included a decree that a human body should be dissected at Salernum at least once in five years in the presence of the assembled physicians and surgeons of the kingdom, and that in the regulations established for admission to the practice of medicine and surgery in the kingdom it was decreed that no surgeon should be admitted to practice unless he should bring testimonials from the masters teaching in the medical faculty, that he was "learned in the anatomy of human bodies, and had become perfect in that part of medicine without which neither incisions could safely be made nor fractures cured." *

*"Nec tamen post completum quinquennium practicabit, nisi per integrum annum cum consilio experti medici practicetur. Magistri vero infra istud quinquennium libros authenticos tam Hippocratis quam Galeni in

Salernum was not alone in its legalization of the dissection of human bodies before the first public work of Mondino, for, according to a document of the Maggiore Consiglio of Venice of 1308, it appears that there was a College of Medicine in Venice, which was even then authorized to dissect a body once every year.* Common experience tells us that the embodiment of such regulations into formal law would occur only after a considerable preceding period of discussion and, in this particular field, of clandestine practice. It is too much to ask us to believe that in all this period, from the date of the promulgation of Frederick's decree of 1231 to the first public demonstration by Mondino, at Bologna in 1315, the decree had been a dead letter and no human body had been anatomized. It is true there is not, as far as I am aware, any record of any such work, and commentators and historians of a later date have, without exception, accepted the view that none was done, and thereby heightened the halo assigned to Mondino as the one who ushered in a new era. Such a view seems to me to be incredible. Be that as it may, it is undeniable that at the beginning of the 14th century the idea of dissecting the human body was not a novel one; the importance of a knowledge of the intimate structure of the body had already been appreciated by divers ruling bodies, and specific regulations pre-

scholis doceant, tam in theorica quam in practica medicine, salubri etiam constitutione sancimus ut nullus chirurgicus ad practicam admittatur, nisi testimoniales litteras offerat magistrorum in medicinali facultate legentium quod per annum saltem in ea parte medicine studuerit, que chirurgie instruit facultatem, praesertim anatomiam humanorum corporum in scholis didiceri et sit in ea parte medicine perfectus, sine qua nec incisiones salubritur fieri poterunt, nec facte (fracte?) curari."

TRANSLATION.—Nor yet shall he practise after the five years' course has been completed unless he shall practise for a whole year with the advice of an experienced physician. Though the masters may have taught in the schools during that period of five years the authentic books of both Hippocrates and Galen, on theoretical as well as practical medicine, yet we order for the public good that no surgeon be admitted to practise unless he shall bring testimonials from the masters teaching in the medical faculty that he has studied at least one year in that part of medicine which develops skill in surgery, that he has learned in the schools especially the anatomy of human bodies, and has become perfect in that part of medicine without which neither incisions can safely be made, nor fractures cured.

Law of Frederick II (1212-52) requiring Study of Human Anatomy by Students of Surgery, promulgated A. D. 1231. *Vide:* Huillard-Breholles, Paris, 1854. Historica Diplomatica Frederici II; Tom. iv, pars I. Constitutiones Regni Siciliae, Liber III. Titulus XLVI, 3.

*Cavazzo: Antico Studio Bolognese, 1896. Page 153.

scribing its practice had been enacted. It is more reasonable to believe that in the era immediately preceding that of Mondino human bodies were being opened and after a fashion anatomized. All that we know of the work of Mondino suggests that it was not a new enterprise in which he was a pioneer, but rather that he brought to an old practice a new enthusiasm and better methods, which, caught on the rising wave of interest in medical teaching at Bologna, and preserved by his own energy as a writer in the first original systematic treatise written since the time of Galen, created for him in subsequent uncritical times the reputation of being the Restorer of the practice of anatomizing the human body, the first one to demonstrate and teach such knowledge since the time of the Ptolemaic anatomists, Erasistratus and Herophilus.

The changes have been rung by medical historians upon a casual reference in Mondino's chapter on the uterus to the bodies of two women and one sow which he had dissected, as if these were the first and the only cadavers dissected by him. The context involves no such construction. He is enforcing a statement that the size of the uterus may vary, and to illustrate it remarks that "a woman whom I anatomized in the month of January last year, *viz.*, 1315 Anno Christi, had a larger uterus than one whom I anatomized in the month of March of the same year." And further, he says that "the uterus of a sow which I dissected in 1316 (the year in which he was writing) was a hundred times greater than any I have seen in the human female, for she was pregnant and contained thirteen pigs." These happen to be the only references to specific bodies that he makes in his treatise. But it is a far cry to wring out of these references the conclusion that these are the only dissections he made. It is quite true that if we incline to enshroud his work in a cloud of mystery and to figure it as an unprecedented awe-inspiring feature to break down the prejudices of the ages, it is easy to think of him as having timidly profaned the human body by his anatomizing zeal in but one or two instances. His own language, however, throughout his book is that of a man who was familiar with the differing conditions of the organs found in many different bodies; a man who was habitually dissecting.*

*Quotations from the work of Mundinus showing his familiarity with dissections. The leaf and line references are to the Dryander edition, Marburg, 1541.

"I do not consider separately the anatomy of component parts, because

He was graduated in medicine in 1290, and the date 1306 is accepted as that when he assumed the professorial chair which he continued to occupy with such rare acceptability until his death twenty years later, in 1326. If, as seems most probable, under the inspiration of Taddeo the occasional dissection of a human body was a matter of routine at Bologna during the student days of Mondino, it is not difficult to imagine that as a student he gave himself to anatomical study with ardor and enthusiasm, in which he was favored not only by the special aptitude and energy of his own character, but by the popularity and influence of his master, by the high standing in the community of his own family, and by the general spirit of interest in new learning of every kind which had begun to move Italy.

Shortly after his death, the young Guy de Chauliac, of Montpellier, came to Bologna to study anatomy under the tuition of Mondino's successor, Bertrucius. When he wrote his own treatise, "La Grande Chirurgie," thirty years later, he prefaced it with an appreciation of the study of anatomy, saying, "It is necessary and useful to every physician to know first of all anatomy"; and that a knowledge of anatomy was to be acquired by two means; these are," he says, "the study of books, a means useful, indeed, but not sufficient to explain those things which can only be appreciated by the senses; the other, experimentally on the dead body, * * * according to the treatise of Mondinus, of Bologna, which he has written, and which [experimental anatomy on the cadaver] he [Mondinus] has done many times"—"*et ipsam*

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their anatomy does not appear clearly in the fresh subject, but rather in those macerated in water." (Leaf 2, lines 8-13.)

" . . . these differences are more noticeable in the cooked or perfectly dried body, and so you need not be concerned about them, and perhaps I will make an anatomy upon such a one at another time and will write what I shall observe with my own senses, as I have proposed from the beginning." (Leaf 60, lines 14-17.)

"What the members are to which these nerves come can not well be seen in such a dissection as this, but it should be liquefied with rain water, and this is not contemplated in the present body." (Leaf 60, lines 31-33.)

"After the veins you will note many muscles and many large and strong cords, the complete anatomy of which you will not endeavor to find in such a body, but in a body dried in the sun for three years, as I have demonstrated at another time; I also declared completely their number, and wrote the anatomy of the muscles of the arms, hands and feet in a lecture which I gave over the first, second, third and fourth subjects." (Leaf 61, lines 1-7.)

fecit multitoties." (La Grande Chirurgie, ed. Nicaise, 1890, page 30). Two women and one sow would not merit the term "mul*titoties,"* nor would the knowledge gained from such a limited field make a great anatomist!

Mondino himself uses the very same word, *multitotiens* in speaking about his own work. He is describing the hypogastric region, which he calls the "Sumen." Through this region, he says, pass to the surface certain veins which transmit fluid in the fœtus in utero, for which reason they are better studied in the unborn than in the fully developed, since they become useless upon full development, "As I have demonstrated *many times*" * * * *"Ego hoc modo multitotiens monstravi." (Anatomia Mundini, Impressit Argentine Martinus Flach,* MDXIII, Cap. II, Paragraph VI.)

We are helped to a better comprehension of the real nature and extent of Mondino's work by what may be learned of two of his assistants, to whom attaches a distinct element of romance. His prosector, at least during the later years of his work, was a certain Otto Agenius Lustrolanus. Otto is repeatedly referred to as Mondino's assistant by subsequent writers. With him was associated a remarkable girl, Alessandra Giliani, of Persiceto. (Persiceto was a populous district ten miles west of Bologna.) This young woman, when barely more than a child, manifested extraordinary interest in learning, and repairing to Bologna became a pupil of Mondino, first in philosophy, it is said, and later in anatomy. She became an enthusiast in the work of the dissecting-room; to facilitate this work she assumed a man's garb; she acquired great skill as a prosector. According to the chronicle, "She became most valuable to Mondino because she would cleanse most skillfully the smallest vein, the arteries, all ramifications of the vessels, without lacerating or dividing them, and to prepare them for demonstration she would fill them with various colored liquids, which, after having been driven into the vessels, would harden without destroying the vessels. Again, she would paint these same vessels to their minute branches so perfectly and color them so naturally, that, added to the wonderful explanations and teachings of the master, they brought him great fame and credit."

The authority for this statement is a quotation by Michele Medici (Compendio Storica della Scuola Anatomica di Bologna, 1857), from Alessandro Machiavelli (Effemeridi sacro-civili perpetua ecc, pp. 60-61), and from the Cronaca Persicetana of

A LESSON IN ANATOMY IN THE XIV CENTURY.

Full-sized reproduction of a miniature placed at the beginning of a 14th Century manuscript copy of the Traité de l'Anatomie of Guy de Chauliac.

MS. Franç. 184, in the Library of the Faculty of Medicine of Montpellier; reproduced for the Nicaise edition of the *Chirurgie de Guy de Chauliac*, 1890.

Orlandi. Medici in giving the quotation speaks doubtingly as to its credibility. Although it is more than probable that later writers have drawn largely on their imaginations for this description of the work of this young assistant of Mondino, it is well authenticated that Mondino did have as an assistant this Alessandra Giliani; that she was skillful and devoted; and that she survived Mondino but a very short time, but died in the very same year as her master. We know the very place where she was buried in front of the Madonna delle Lettere in the Church of San Pietro e Marcellino of the Hospital of Santa Maria di Mareto, where her associate, Agenio, mourning and inconsolable, placed a tablet with this inscription:

"D . O . M.
Vrceo . Contenti
Alexandræ . Galinæ . Pvellæ . Persicetanæ
Penicillo . Egregiæ . Ad . Anatomen . Exhibendam
Et . Insignissimi . Medici . Mundini . Lucii
Paucis . Comparandæ . Discipulæ . Cineres
Carnis . Hic . Expectant . Resurrectionem
Vixit . Ann . XIX . Obiit . Studio . Absunta
Die . XXVI . Martii . A . S . MCCCXXVI
Otto . Agenius . Lustrulanus . Ob . Eam . Demptam
Sui . Potiori . Parte . Spoliatus . Sodali . Eximiæ
Ac . De . Se . Optime . Meritæ . Inconsolabilis . M . P."

This inscription may be translated as follows:

"In this urn enclosed
Are the ashes of the body of
Alexandra Galiani, a maiden of Persiceto;
Skillful with her brush in anatomical demonstrations
And a disciple, equalled by few,
Of the most noted physician, Mundinus of Luzzi,
She awaits the resurrection.
She lived 19 years: She died consumed by her labors
March 26, in the year of grace 1326.
Otto Agenius Lustrulanus, by her taking away
Deprived of his better part, inconsolable for his companion,
Choice and deserving of the best from himself,
Has erected this tablet."

Later writers have surmised that Alessandra ruined her health by too close application to her work in the dissecting-room among diseased and pestiferous bodies.

Bologna expected Otto Agenius to carry on the work of his

master, but such expectations were frustrated by the sudden death of Otto also, before he was thirty years of age.*

An instructive and interesting side-light on the conditions attending the study of practical anatomy in the days of Mondino may be found in a record,† still extant of a legal procedure, which occurred in Bologna in the year 1319, four years after Mondino had begun his public demonstrations, and at a time when Otto and Alessandra were doubtless enthusiastically working with him. According to the record, four students—three from Milan and one from Piacenza—were accused of having gone at night-time to the cemetery of the Church of San Barnaba, outside the San Felice gate, and to have sacrilegiously violated the grave in which was buried the body of a certain Pasino who had been hung on the gallows near the Ponte di Reno. It was charged that the students had taken up the body and carried it to the school in the parish of San Salvatore, near the pharmacy of Giacomo de Guido, where master Alberto (Zancari) was teaching. There were witnesses who affirmed that they had seen the body of Pasino in the school, and the students and others intent upon dissecting it. It was the sixth of December, when the arrests were made, but the final outcome of the trial is not stated.

Here certainly is the touch of human nature that makes us all akin. The medical student of the 14th century was very much like his fellow of the 19th century, and Mondino would have felt at home with Robert Knox and John Hunter and Astley Cooper.

It is not difficult for us of this day to put ourselves in sympathetic relations to these cadaver-lifting students of 600 years ago. We know what their mental processes were for we have all been through the same ourselves in our own day and generation. We know what their zeal must have been; what the intensity of their interest to see for themselves the things which Mondino

*Michele Medici (Compendio Storico della Scuola Anatomica di Bologna, 1857) quotes the following from Joseph Fernandus Guglielmus:

"Enim vero quid non profecisset Bononia ab Otto Agenio Lustrolanus quo Mondino assidui pro sectore utebatur, nisi sexto nondum vitæ suæ prætergresso lustro celere invidaque morte fuisset sublatus." That is to say: "What advantage indeed might not Bologna have had from Otto Agenius Lustrolanus, whom Mondino had used as an assiduous prosector, if he had not been taken away by a swift and lamentable death before he had completed the sixth lustrum of his life."

†Racconti del Mazzoni Toselli, Vol. III, p. 118, quoted by Michele Medici, *op. citat.*

had described and Agenio had demonstrated. The tale gives us an insight into the enthusiasm and ardor for anatomical work that had been awakened in Bologna. One gets no suggestion of timidity or superstitious fear to profane the human body. It was evidently neither a new nor a rare thing which the body of this Pasino was to be subjected to.

In 1316, Mondino issued his book. He must have been then about fifty years of age. The exact year of his birth is unknown. If in 1290, however, he graduated in medicine, it is probable that we are not far wrong if we assign an age of twenty-five years for him at that time. If so, he may have been fifty-one when his work was completed. As an introduction to it he gives the reason why he has written it. He says: "A work upon any science or art—as saith Galen—is issued for three reasons: *First,* that one may satisfy his friends. *Second,* that he may exercise his best mental powers. *Third,* that he may be saved from the oblivion incident to old age. Therefore, moved by these three causes, I have proposed to my pupils to compose a certain work on Medicine.

"And because a knowledge of the parts to be subjected to medicine (which is the human body, and the names of its various divisions) is a part of medical science, as saith Averrhoes in his first chapter, in the section on the definition of medicine, for this reason among others I have set out to lay before you the knowledge of the parts of the human body which is derived from anatomy, not attempting to use a lofty style, but the rather that which is suitable to a manual procedure."

This, then, was the origin and object of the book. It was written out of the fullness of his experience and labors as a part of the general subject of medicine. Its copies could be multiplied by hand only, and it was one hundred and seventy-five years before the first copy of it, printed from movable type, was produced. For more than two hundred years it remained as the final authority in that department of medicine, ' *'De omnibus humani corporis interioribus membris Anathomia."*

No other great original anatomist arose to dispute the supremacy of Mondino, until Vesalius appeared in the sixteenth century, and modern anatomical research was started on its career.

It does not come within the scope of the present paper to consider at any length the book of Mondino nor its later wonderful vogue for so long a time; it is with the man himself rather that we have to do. The book must always remain of rare

interest to the medical antiquary and historian, and especially to those particularly interested in the development of anatomical research. No translation of it into the English tongue has ever been published that I am aware of. The rude medieval Latin in which it is written makes its deciphering so difficult that the task would be undertaken only by an enthusiast. The manuscript of such a translation, however, is in my possession, executed years ago by my brother, Dr. James E. Pilcher, of the U. S. Army; the work having been assumed by him to relieve the tedium of garrison life in a western post. It ought to be published, but the favorable moment never seems to have presented itself. Its existence had almost been forgotten until inquiry, prompted by the present study of Mondino himself, has again brought it to memory.*

At the same time that Mondino was dissecting and teaching in Bologna, Henri de Mondeville was teaching anatomy and surgery at Montpellier, in France, and was writing a treatise on surgery, which occupied him during the period between 1306 and 1312. This treatise, able and interesting as it is, was supplanted in the next generation by that of De Chauliac, so that it remained buried in manuscripts until the close of the nineteenth century, when it was unearthed from the libraries in which it was preserved, by a German antiquary, and first published from a German press. (*"Die Chirurgie der Heinrich von Mondeville, zum ersten Male herausgegeben von Dr. J. L. Pagel,"* Berlin, A. Hirschwald, 1892.)†

This book of Mondeville is especially valuable to us in our present study, as giving some light on the real state of anatomical study at that date. Mondeville had studied at Bologna, following especially the lessons of Theodoric in surgery. Theodoric died in 1298. Mondeville had then returned to France and had begun his teaching at Montpellier, so that we know that his Bologna studies must have been previous to that date. We have seen that Mondino had taken his medical degree in 1290, so that it is unquestionable that Mondeville and Mondino were contemporaries as students of medicine in the school of Thaddeus and Theodoric.

*Correspondence in connection with the bibliography of Mundinus has brought out the existence of another manuscript translation into English of this book done at the instance of Dr. Howard A. Kelly, of Baltimore.

†A fine edition of the *Chirurgie de Mondeville,* translated into French, was published in 1893 under the auspices of the Ministry of Public Instruction of France, edited by E. Nicaise.

When Mondeville returned to Montpellier and began to teach anatomy, he had to content himself with charts and models to illustrate his teaching, for public opinion in France was not such as to permit public dissections of the human body to be made then, nor for many years thereafter (in France the first dissections of the human body were done at Montpellier in 1376), for when his successor, De Chauliac, would learn the structure of the human body, he, too, had to repair to Bologna for the purpose. The manuscripts of Mondeville's chapters on Anatomy indicate that there were from twelve to nineteen separate charts used by him. The designs* are not reproduced in these manuscripts, but the legends have been preserved, so that we may have a pretty clear idea what they represented. I will refer to but two of these.

Selecting two, No. 3 and No. 9, which are fairly representative the legend of No. 3 is as follows:

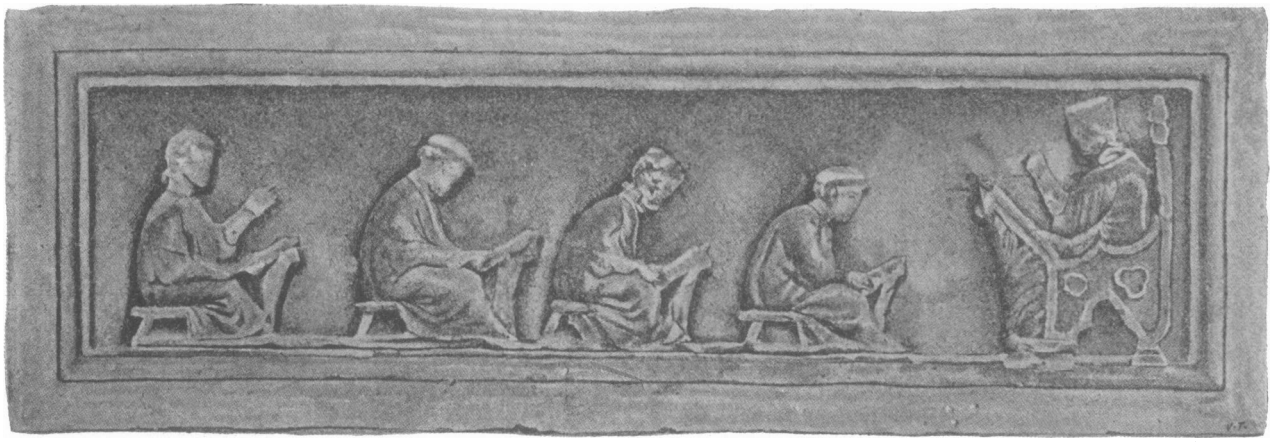
"Figure of a man in whom, by an opening of the belly and of the chest, one sees the veins and the large arteries arise in the liver and the heart and go to the distant parts of the body, as the nails and the hair." Page 20.

No. 9 reads: *"Figure of a man cleft open in front from the middle of the forehead to the anus, that is to say through the middle of the nose, of the mouth and of the tongue; in the interior appear whole the knuckle of the throat, the food and the air ducts, the heart, the lungs and the diaphragm, the stomach and the epiploon, the liver, the spleen and the intestine, according to the manner in which they are grouped and exist in the living man, as accurately as possible."* Page 37.

Who made the first sketches for these plates, who wrote these legends, we do not know; certainly someone who had looked into the opened cadaver and described what he there saw. It may possibly have been Mondino himself; more likely the masters by whom both Mondino and Mondeville were first instructed as to the mysteries of the interior structure of the human body, *"De omnibus humani corporis interioribus membris Anathomia."*

The point of importance in connection with the present theme

*One of the manuscripts contains fourteen miniatures which show only the general subject. Because of their minuteness they represent no detail. The first one shows a surgeon standing, holding in his hand a razor with which he is making in the different parts of a man who stands naked before him different incisions, according to the variations of the parts, and according to the teaching given in the text which follows. NICAISE. *Chirurgie de Maitre Henri de Mondeville.* Trad. Française, Paris, 1893.



LA SCUOLA DI ROLANDINO PASSAGGERI
dalla sua tomba nell' antico cimitero di S. Domenico, ora piazza Galileo.
From a photograph.

is that the making of such charts adds an increased probability to the truth of the conclusion of the writer that there were dissectors before Mondino.

As further illustrative of the energetic quality of Mondino's mind, his readiness to seize upon and make the most of the possibilities of the moment, there has been preserved to us a notable evidence in the sculptured sepulchral tablet, which he erected over the tomb of his uncle, providing, at the same time, that it should mark his own final resting place.

The custom of honoring the professors in Bologna by rich tombs had long existed.* For such monuments grand pyramidal structures had prevailed during the thirteenth century, and magnificent examples of these still remain in the old cemeteries of San Francisco and San Domenico. When, however, the jurist, Rolandino Passaggeri, died in the year 1300, for his monument a new style was devised. The remains were placed in a huge marble sarcophagus, on the side of which was a sculpture in high relief representing the professor in the act of giving a lesson to four of his pupils who are seated before him upon very low benches holding their books supported upon small desks. The benches and desks are roughly made and of primitive form, and the whole sculpture is rather rude and archaic. It contains, however, very clearly and distinctly, the idea of preserving the memory of the teacher doing his life work with his pupils about him. (See reproduction of photograph of tomb: Plate 9.)

Eighteen years later, Liuccio di Luzzi, the uncle of Mondino, died. This uncle was a laureate of the medical school in 1281; in 1292, he became professor of physics in the University, and in 1307, he began to teach medicine, holding a chair both in the colleges of philosophy and medicine. His father, Albizzo di Luzzi, is believed to have come from Florence, and the records show that as early as 1270 he had established, in company with a certain Bartolommeo Raineri, a pharmacy in Bologna. It later passed into the entire control of the Mondini and thereafter became the Spezieria del Mondino. It had for its ensign a doctor, and was maintained as a drug-shop until the beginning of the last century.†

This pharmacy was near the Church of San Martino dei

*Corrado Ricci. Monumenti sepolcrali de lettori dello studio bolognese. Bologna, 1888.

Cavazza. Antico Studio Bolognese, 1876, p. 191.

†Michele Medici. *Op. citat.*

Caccianemici, in the Piazza del Aurora, in the quarter of the Porta Nuova, in which the School of Medicine was situated.*

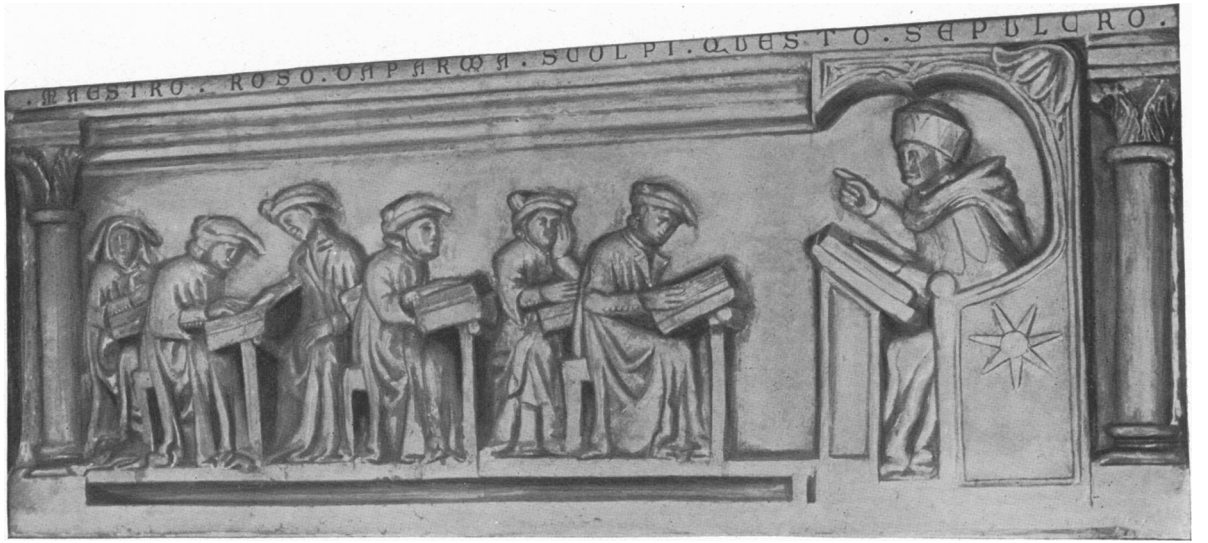
Liuccio, with his brother Nerino here continued to exercise the art of pharmacy, a vocation which in those days was evidently not inconsistent with the position of a professor of physics and of medicine in the University. It was among such surroundings that Mondino spent his boyhood and grew up into the medical school which was near by. His uncle Liuccio was, in his eyes, a great man. Upon his shoulders the mantle of Taddeo had fallen. Through his influence and inspiration his own career as an anatomist had been developed. A tomb befitting his merits it should be the duty and privilege of the nephew to erect, one which Mondino himself might share when "inevitabile fatum" should have overtaken him also.

The Passaggeri *bas relief* had doubtless been the subject of much comment among the scholars of the University, and the idea which it contained appealed to the peculiar quality of Mondino's mind, which rendered it ever open to novelty and merit. Such a tablet should commemorate the virtues and attainments of his uncle, and should mark his own final resting place. To the sculptor Roso, of Parma, was given the commission, and the result is one of the most perfect and characteristic sepulchral bas reliefs of that period. (See plate 10.) Seated in a massive professorial chair, surmounted by an imposing canopy, with a large folio resting upon a reading desk before him, the professor is represented as in the act of commenting upon the text. It is possibly a copy of Galen, or, more likely, of Averrhoes or other of the Arabian writers that was before him. With outstretched hand he is enforcing his comment. The fur-bordered cap and the hooded robe that mark his high position in the University are distinctly delineated, and the features—though now after six hundred years they show the corroding effects of time—we may well believe presented a marked likeness of the man whose memory the sculpture was to preserve.

The professor is represented as of heroic size compared with his pupils that sit before him; an attempt to represent in physical proportion the mental dissimilarity that was supposed to exist,† a custom which was common among the painters of that age in their representations of the Saviour and the Saints as compared with

*Cavazza. *Op. citat.*, p. 12.

†The Bertalia tablet (MCCCXXVIII) is herewith reproduced. (See Plate 11), as a still more striking example of this custom.



THE MUNDINUS TABLET IN THE PORTICO OF THE CHURCH OF SAN VITALE IN BOLOGNA.
(From a photograph of the replica in the possession of Dr. L. S. Pilcher, of Brooklyn, N. Y.)

LA SCUOLA DI MICHELE DA BERTALIA LETTORE DI MEDICINA.
Dal suo sepolcro già in S. Francesco ed ora nel Museo Civico.
From a photograph.

their followers. Seated on benches, in front of the professor are the scholars, clothed in long togas, the head covered by a kind of turban. Before each is a reading desk upon which lies a great folio, which each pupil is intently regarding. By one of these desks stands one who is apparently an assistant or demonstrator, who is pointing out to a perplexed student the matter which the professor is expounding; while in the distance is seen approaching one, who by his manner of dress is evidently of a different grade from the pupils, who is bringing in an armful of books.

Thus we see in this tablet the professor, his assistant, the pupils, and the beadle, all represented. The costume of the age and place is preserved to us, and a most realistic presentation of the medieval University classroom is given to us.

This tablet still remains affixed to the wall of the portico of the Church of San Vitale in Bologna, marking the spot where the remains of both Liuccio and Mondino di Luzzi were buried. With but one other exception, all other sepulchral tablets of its class in and about Bologna have been removed from the place in which they were originally set up, and assembled in the halls of the Museo Civico, a kind of desecration which does violence to one's sense of sanctity and propriety. The churches of San Domenico and of San Martino, the Cathedral and the Cloister of San Giacomo degli Ermitani have all been despoiled of these sculptures which in their original setting would ever have had the highest historical interest, and they have been made simply specimens in a civic museum! Fortunately, thus far, the Mondino tablet has escaped the spoiler.

One April afternoon I stood before this tablet and mused upon its significance and memories. The dim light of the church portico was quite in keeping with the dimness and vagueness of our knowledge of the men to perpetuate whose memories it was erected 600 years ago. Here, however, was something tangible that brought me directly into contact with an energetic mastermind, one who was the chiefest figure in the domain of medicine over a period of two hundred years, who was the morning star of its renaissance. This marble he had planned to perpetuate the memory of one whom he had revered, as well as to mark his own final resting place; his own hands had been upon it; with loving solicitude he had placed it in the portico of this ancient church in the quarter of the Porta Nova among the men whom he had

taught and who loved him. Certainly this was a shrine to which the medical pilgrim might well bend his steps, and before which he might bow in reverence.

INSCRIPTION IN THE WALL BELOW THE MUNDINUS TABLET IN THE PORTICO OF THE CHURCH OF SAN VITALE

Below the bas relief is a plain marble slab affixed to the portico wall, containing the following inscriptions:

"Gloria Nature Medica Virtute Leuci,
Cujus Erant Cure Morientes Redere Luci
Invidia Fati Recubas Jam Nomen Adeptus
Compar Ypocrati Sublimi Marmore Septus
Annis Millenis Tercentum Bisque Novenis
Dum Sol Terdemis Augustum Torquet Habenis."

which may be translated into English thus:

"To the innate glory and medical worth of Leucius,
By whose skill the dying were restored to life;
To an hateful fate thou dost submit.
Now thy name, esteemed equal to that of the renowned
Hippocrates, is embalmed in marble. August
30, One thousand, three hundred and eighteen years."

Below this is a second inscription containing the words:

"Sepulchrum Magistrorum Leucii et Mondini
de Luccis et eorum Heredum."

that is to say:

"The sepulchre of Masters Leuccius and Mondinus de
Lucci and their Posterity."

The tablet presents to the left of the first inscription the sculptured outline of an open book, the pages of which bear the words, "*Vita Brevis Ars Vero Longa.*" On the right of the inscription, in low relief, is a shield bearing two fishes, presumably the special insignia of the Luzzi family (Luzzi = Pikes).

At the time of my visit to the Church of San Vitale, the thought occurred to me that it might be possible to obtain permission to make a plaster cast of this sepulchral tablet and transport it to my own home; a trophy that would always be a source of pleasure to me and possibly to other students of medical history. I was able to enlist the active co-operation of Mr. Frank, of the Hotel Brun, through whom the necessary permission of the civic authorities was secured, the only stipulation being that I should have a second cast made which should be deposited in the Museo Civico. This I was the more glad to accede to, since possibly the presence of such a cast in that museum might tend to lessen the probability of the original itself being transferred from the place where Mondino himself had put it, to the miscellaneous walls of a public and heterogeneous collection. An artist in plaster was at once secured and the contract made, and in due time the completed cast reached me and found its present resting place in my own library.