

Principles, Medical Teachings and Assistance in the Middle Ages. History of the Medical School of Salerno

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1. Historical

Man, by chance, discovered that a tree leaf, placed on the body “in a poor state”, to heal a disease, performed its task, so herbs and plants were the first medicines of man as well as products animals and minerals. Primitive medicine was born with the creation of the world handed down with drawings in numerous caves and caverns from all peoples, from Asia to Africa to the Americas, with paleopathology it was able to trace the diseases from human fossil remains.

In the Middle Ages, magic and popular beliefs were in contrast with the ideas of expanding Christianity and the “new medicine”, disclosed in writing by the great doctors of the time, Hippocrates (5th-4th century BC) and Galen (2nd century A.D).

The invasions of the Germanic peoples of the North marginalized Roman culture and rejected the theoretical baggage of medicine, while Christianity openly condemned pagan culture. The man, even if he faced pain and death, he was only a pilgrim on earth and physical care had to be subordinated to the spiritual one, since the human body was CREATED only TO BE THE SEAT OF THE SOUL. As early as 3000 BC, however, as Molfese reports in the volume History of medicine in images, methods were put in place to record and hand down medical treatments in some peoples, they began to disseminate and improve them through oral transmissions in the form of precepts over the centuries.

The Navahos, American Indians, in the painting Song of the mountain, show a ceremonial of primitive medicine and sand painting, where there are religion, magic, songs, physiotherapy and psychotherapy, as well as the use of “remedies”. In Peru a 1st century BC surgeon he is preparing to start an opening of the skull using, for the trepanation, obsidian knives, a narcotic plant, cotton and small cotton cloths (bandages).

The assistants keep the patient motionless and the priest invokes supernatural intervention. Susruta, a famous Hindu surgeon, is modeling an artificial ear lobe for a patient who has undergone a mutilation. The Susruta-Samhita, a great ancient treatise on Ayurvedic medicine, reports the techniques, the ancient instruments and the remedies for carrying out this intervention.

An Egyptian doctor (1550 BC) is treating a patient suffering from tetanus, according to what is written in a papyrus.

Every night, for a thousand years since 500 AD. to 1500 BC, sick or suffering pilgrims gathered inside the Greek temples of Asclepius, who appeared to them in a dream, imparting advice and granting healing.

Hippocrates (5th century BC), father of medicine, was inspired by his aphorism: “where there is love for mankind, there is love for the art of healing”.

Galen, a Greek physician (130-201 AD), used the “cups” cure, which, once applied to the body, absorbed the disease. His teachings prevailed in medical practice for over 14 centuries.

Razi (865-925AD), a Persian physician, wrote the first known book on pediatric care in Arabic.

Hammurabi (1768-1750 AD), one of the first Kings of Babylon, united Babylonia and Assyria under a single scepter: Mesopotamia. An erudite man, he collected in a code, which became famous, the laws that regulated the life and relationships of the inhabitants of Mesopotamia. Cuneiform writing on clay was born in this nation, which spoke of diseases and plant medicines to cure them. Even the medieval structure with the Grand Chambre des Povres, at the Hotel-Dieu in Beaume (France), is considered the “first hospital” known to the world and had as its motto: *infirmis ante omnia et super omnia cura adhibenda est*. The medical practices of ancient times, which cured

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ills, were mainly based on religious beliefs, popular traditions on superstitions and magic. The progressive scientific thinking of Greek, Roman, Arab, Egyptian and Middle Eastern scholars on medicine and science was little studied. The monasteries were among the few places that produced books, some monks practiced the daily medical art for the treatment of diseases with the use of substances of mineral origin (sulphur, alum, precious stones, pearls) of animal origin (animal meat, dung) and species of vegetable origin: hypericum leaves to heal wounds, bay leaves for intestinal disorders and special vegetable preparations, such as ointments, balms, ointments, poultices for specific diseases.

The vegetables called “simple” and produced by the monks themselves, in the hortus sanitatis or garden of the simple, were also ingested or introduced through the orifices of the body. The most frequent diseases in the Middle Ages were CHOLERA, LEPROSY, SMALL POX, TYPHYUS AND THE INFLUENZA as well as PLAGUE. Matteo Silvatico describes the cultivation of medicinal

plants in the OPUS PANDECTARIUM MEDICINAE-PANDETTE and in the current Garden of Minerva, VIRIDARIUM, he taught his pupils the art of healing with herbs, the their cultivation and the extraction of the active principles. From the Arab world came the distillation technique with a hot alembic to produce the aqua vitae used as a wound disinfectant, but above all as a tonic, Rose Water also used as eye drops. With COSTANTINO L'AFRICANO, a school of Phytotherapy was born and botanical science took off with the first botanical gardens of medicinal plants, where the active ingredients, the chemical substances to cure diseases, were extracted from the herbs from the ancient pharmaceutical laboratories; began that art of chemistry called iatroquinics, which studied medicines.

The nascent school also referred to the medical cultures of the time to lay the necessary foundations to then be recognized throughout the world and thus also initiate the birth of universities in Italy and in the rest of Europe. In Salerno, in the 9th century, there was a great legal culture, an ecclesiastical school but also a few scholars, who taught the dogmas of the art of health (Figure 1).



Figure 1: Costantino l'Africano

Among these, an important role was played by women in the practice and teaching of medicine related to pregnancy and childbirth, who became famous with the name of Mulieres Salernitane. These, throughout the Middle Ages, ensured the survival of the birth of newborns and women. It represents one of the major challenges, due to the demographic decline, caused by diseases, also linked to social conditions. Only aristocratic women were assisted by a doctor. The tall women handled the birth with the help of experienced women then mamas who had learned the trade by practice.

The Catholic Church with the translation of ancient texts, gave an impetus to the knowledge scientific: medical practices, the study of the body, the approach to diseases, the use of natural remedies, especially herbs, as well as balneotherapy, bloodletting and diet. In the Middle Ages the religious orders in their convents were the first in Europe to found the various “hospitals”, called hospitale-xenodochium, used as hospices, where they provided medical assistance,



shelter and spiritual guidance to the needy. At that time the doctor took care of the external part of the patient's body, while the surgeon took care of the inside, being surgery, in those days, still in its infancy.

The “School” founded its scientific foundations on the union between the Greek-Latin tradition, the Arab-Egyptian culture and the Asian world, and the Catholic Church. In Salerno, located in the center of the Mediterranean, the books of the greatest scholars arrived, Avicenna, Averroes, Hippocrates, Galen, Theodore of Antioch.; the Carthaginian doctor Constantine the African (ie from Ifrīqiya) also arrives in Salerno from the sea. The classical works long forgotten in the monasteries were rediscovered and, thanks to the “Medical School”, medicine was the first scientific discipline to emerge from the abbeys to deal again with the world and with experimental practice.

The monks, especially the Benedictines of the monasteries of Salerno, of the Badia di Cava and of MONTECASSINO, had a great importance in the dissemination of the scientific discipline as well as, in the 11th century, the presence of three important personalities: Pope Gregory VII, the abbot of Montecassino Desiderio (future Pope Victor III) and the bishop Alfano I.

The “School” of Salerno grew and developed between the 10th and 13th centuries. Pilgrims from holy places, warriors, many veterans of the Crusades, people “in miserable condition” from all over Europe who hoped to be healed, and finally students who wanted to learn the art of medicine, came to the Schola Salerni.

Hippocrates and Galen theoretically considered disease as an imbalance operating within the human body between the four humors present in it: blood, bile, phlegm (secretions from the nasal passages thought to come from the brain) and atrabile or black bile, thought to come from the spleen, a doctrine also supported by Alfano I, illustrated in the volume *De quattuor humoribus corporis humani*. When one lost one’s balance one went towards the disease, which could be eradicated with diet, medicines (provided by herbs), blood-letting, leeches and balneotherapy.

In 1231 the authority of the school was sanctioned by Emperor Frederick II: in his Constitution of Melfi, where it was established that the activity of doctor could only be carried out by those in possession of a diploma issued by the Medical School of Salerno. In 1280 Charles II of Anjou approved the first statute in which the School was recognized as a *Studium Generale in Medicine*.

The regulations provided for the *Curriculum Studiorum* 3 years of logic, 5 years of medicine, including surgery and anatomy, and 1 year of practice with an elderly doctor. At the end of the curriculum there was an exam before the commissioners of the Curia Regia and, once passed, the *MEDENDI LICENSE* and the *PRACTICE LICENSE* were obtained.

The art of surgery also appeared in Salerno by Ruggiero di Fugaldo, who wrote the first treatise on surgery, *PRACTICA CHIRURGIAE* 1171, which was spread throughout Europe, so Salerno became a destination for foreign students eager to learn this new science.

The Medical College, independent of the school, had the task of subjecting the pupils to a rigorous examination in order to obtain the doctoral privilege, not only to practice medicine, but also to teach.

Doctors who practiced in the various regions graduated, but also foreign doctors who flocked to Salerno, since it was the first medical

school in the world, where the greatest scientists went to offer their theoretical and practical teaching. Until then, the theoretical and practical teaching of medicine was permitted only to monks and ecclesiastics who handed it down orally.

The school, the first and most important medical institution in Europe in the Middle Ages, paved the way for the culture of prevention with a regular lifestyle, healthy eating that brought health and longevity, it also implemented a timely syncretism between different cultures, -the system of humors elaborated by Hippocrates and Galen - and the medical science of the West and the East.

In fact, the religious princes of the time believed that it was useless to cure the body since salvation only concerned the soul; the school introduced the concept that it was also important to maintain the health of the body with hygiene standards, correct nutrition and a healthy lifestyle.

He also elaborated and implemented concepts of psychosomatics (care of the body with good food, rest and happiness) and allowed women to enter schools as students, teachers, in the practice and teaching of medicine, especially obstetrics.

The teachings of the school were widely disseminated thanks to the *Regimen Sanitatis Salernitanum*, a collective work collected and commented on in the 13th century by ARNALDO di VILLANOVA. Written in verse, it contains remedies and advice to preserve health by standardizing the conduct of life to the usual rhythms of one’s environment and one’s body: diet, walks, rest and moderation.

He introduced the care of patients with daily medical assistance, elaborated the development of phytotherapy on the curative properties of herbs, of pharmacology and finally of the art of surgery. It allowed medicine to make giant strides in the diagnostic and therapeutic fields and numerous doctors made discoveries in the first universities, including that of France, Spain and Germany. In ITALY it was the universities of BOLOGNA PADUA NAPLES that experimented with the microscope, surgery, anesthesia and x-rays, up to the point of curing most of the tumors that affect humans.

The *SCUOLA MEDICA SALERNITANA* was the first medical school in the world to disseminate science for the treatment of human diseases, for which it deserves to have the recognition of world cultural heritage of humanity by UNESCO.

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2. Keywords: Paleopathology; Molfese; Susruta-Samhita

