

(by Antonis A. Kousoulis MD)

The history of medical education shows how lasting is the influence of the ancient system of Greek medicine, not only in its substantive contributions, but also in its devotion to reason, in its ethical attitudes and standards and in countless other ways.

With the times going by, the prehistoric influence of superstition and religion on medicine gradually decreased until the principles of rationality were marked by the arrival of Hippocrates' medicine, even though the two approaches coexisted for some centuries. In classical Greece, the leaders of the medical profession were the theoretically grounded physicians and philosophers who strived to make the understanding of nature fundamental to their art and teaching. Greek doctors who were employed by a city-state as public health officers were supported by a special tax called *iatrikon* ("ιατρικόν") and sometimes received additional benefits. However, no evidence exists that these civic physicians were involved in medical education or that the special taxes were used to finance public medical education. In fact, no system of formal medical education or any curriculum program that issued diplomas to successful medical students existed in the classical antiquity. Even the first centres of medical excellence, like Cos and Knidos, did not provide any legally recognized certification or formal system of teaching. On the other hand, physicians who were associated with one of the major medical schools were probably more in demand compared to their less prestigiously educated peers.

The mentor-student system of medical education

The passing on of knowledge through mentoring was highly regarded in the Greek antiquity from as early as Homer's time. Accordingly, medical knowledge was bequeathed from father to son or to the physician's assistant via a master-apprentice relationship: the apprentice learned by observing and assisting his master curing patients. Such medical education was fundamentally practical. The student learned to take detailed medical history from the patient, his relatives or friends, catalogue observable regularities, and accordingly formulate rational hypotheses, explanations and treatments. He was trained to properly use his senses of observation, hearing, smelling, palpating and carefully examine the patient's pains, mental

state, position in bed, fever, breathing, and excretions (urine, feces and sweats). The patient's pulse was also examined but its profound diagnostic significance was not elaboratively catalogued at these times. Practical experience was the essential component of the medical craft taught to the apprentice. As was noted in the Hippocratic texts: "*He who aspires to practice surgery must go to war*". A

competent student would also attend the patient as a nurse in serious cases. The quality of training depended on the master's skills and the student's prowess. The length of education depended on the depth of the apprentice's studies and on his intellectual skills and competence. In theory, medical training was open to every man. Of course, the aspiring physician required a master willing to train him and the successful medical protégée required certain characteristics, including above-average intelligence and a firm grasp of reality. But in principle, the pursuit of medical knowledge in ancient Greece was unrestrained.

With the Greek region fragmented into hundreds of independent city-states, the ancients had to rely on the self-policing apprentice system by which Greek medical education was organized. Each of the masters, who were successful and experienced physicians, would take care in recruiting, selecting and training their apprentices and carefully monitor their progress to ensure the quality of their education, which was important to the reputation of the master as well as of the student.

The first medical schools

However, decades had to pass before students started complementing their practical work with the study of books (with the Hippocratic Collection and Dioscorides' works) and only after the full rise of Hippocrates' teaching, his Oath came up as a possible evidence of completed medical training and qualification next to an obligatory attendance to one of the major medical schools. In the classical antiquity, medical "schools" were essentially schools of thought formed by an influential medical practitioner and his followers. There were no academic buildings dedicated to medical training. With the coming of the 5th century B.C. the most famous of such centres were Cos, where Hippocrates was born, and Cnidus, situated just opposite of Cos on Asia Minor. These ancient Greek states developed medical schools that served as hallmarks of medical education. The instruction they provided, though, was informal and not certificated. Doctors associated with these schools shared knowledge through practice and imitation; medical students observed their masters treating diseases and prescribing measures, while aspiring surgeons accompanied military surgeon troops on campaigns.

Medical education for women

Especially for women, there are few data regarding their involvement in general medical practice other than gynaecology. Around the classical times, childbirth was almost exclusively entrusted to female kin and neighbours who had themselves given birth. Some of these women stood out because of their skills and became known by the title of *maia* ("μαία") or *midwife*. Most midwife practitioners were usually trained from other midwives.

Towards a formal education

It took Hippocrates' developing of his immensely influential rational school bringing about the transition from empiricism to scientific, patient-centered medicine and, several centuries later, Galen's unifying influence for instituting theories and research as the standard system that was passed on to later ages.

During the time of Myrtis, on classical Greece, we can trace the fundamental concepts that continue to guide modern medical education. In a world that was initially dominated by superstition, the first great medical schools advocated a more thorough, objective, ethical practice to their students and these principles were reiterated and embellished by today's medicine. After all, the master-apprentice practical system of medical education, even today, seems the most proper and efficient way for a young physician to learn his art.

Essential Bibliography

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The Athenian empire at 5th Century BC. Source: Shepherd WRH istorical Atlas. NewYork, Henry Holt & Company:1926.

□ *Hippocrates teaching. A statue from Kos island.*