

GALEN AND HIS TIMES.*

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While Hippocrates is called the "Father of Medicine," Galen has been termed the "Prince of Physicians." His name is given as Galenus, Galen, and Galien. The chronology of his life, unlike that of Hippocrates, is not involved in any great doubt, for in his own writings there are numerous autobiographic and historic details which allow of considerable accuracy in tracing his course. Claudius Galen was born 130 or 131 A. D., and died about 200 A. D., in Sicily. He was a native of Pergamos, a city of Asia Minor, celebrated for its temple to Aesculapius, its school of medicine and its library which was afterwards moved to Alexandria.

Galen received a careful education in philosophy, mathematics, and history from his father. He was urged by Apollo in two different dreams to study medicine. He followed the Divine Will and studied in his own city first; later he traveled widely and remained some time studying in Alexandria. He returned to Pergamos in 158 A. D. and undertook the treatment of gladiators, as giving him the best opportunity for increasing his knowledge of surgery.

He visited Rome in 164 A. D. and here won considerable reputation by his success in practice and his public lectures on anatomy. He was appointed private physician to the young Commodus by Emperors Marcus Aurelius and Lucius Verus. He died at the age of seventy after winning the high esteem of his contemporaries.

Galen was evidently a man of great natural ability, versed in philosophy, an expert anatomist, an experimental physiologist and a physician of great experience. His writings leave no branch of medicine untouched. They comprise anatomy, physiology, pathology, pharmacology, and treatment. One hundred twenty-five books of his were destroyed by fire, about one hundred were preserved. Many of his books have not been printed, while others exist only in Latin, Syriac, Hebrew and Arabic translations. He wrote extensive commentaries on Hippocrates, eighteen books in all. In these books Galen asserts that he was not attached to any of the sects that divided the physicians of his time, but he is not to be credited entirely, for we find him classed by historians with the dogmatics and a follower of the doctrines of Hippocrates to a great degree. That he considered himself greater than Hippocrates is shown by the following quotation: "No one," he says, "before me has given the true method of treating diseases. Hippocrates, I confess, has heretofore shown the path, but as he was the first to enter it, he was not able to go as far as he wished. The order adopted is bad: he omits certain important indications and has not made all the distinctions necessary. Often, he is obscure, as is usually the case with the ancients when they attempt to be concise. He says but very little of complicated diseases, in a word, he has only sketched what another was to complete, he opened the path, but has left it for a successor to enlarge and make it plain."

This quotation shows very well the egotism of the man and how slightly he regarded the labors of the physicians who lived between

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Hippocrates and himself. Galen with Hippocrates belonged to the rational or dogmatical sect. They inquired into the remote and proximate causes of disease and into the effects of airs, waters, places, pursuits, food, diet, and seasons in altering the state of the human body and in rendering it more or less susceptible of morbid changes. Looking upon general rules as not being of universal application, they held that the treatment ought to be modified according to the many incidental circumstances under which the patient might be placed. They freely availed themselves of whatever aid they could derive from experience, analogy and reasoning.

Galen says that the end and object of medical science is to preserve in the natural state the parts of which the body is composed, and to endeavor to establish their functions when disordered.

The parts of the body, he considers as simple or compound, similar or organic, having for their elements fire, water, air and earth. These have the qualities of heat, cold, moisture and dryness. According to the predominance of any one of these qualities over the other, is determined the condition of the body. While they are balanced, health is maintained; when they are disturbed, disease results. Galen's remedies are directed by the same consideration. When a part naturally hot becomes cold, means must be taken to restore that which is lost and vice versa. In his study at Alexandria it is generally accepted that Galen practiced dissection upon the human body, for it is known that human dissections were practiced about this time. In some cases criminals were turned over to the medical school and even before death they were operated on for experimental purposes.

It is known definitely that Galen dissected lower animals, especially apes, because of their likeness to the human body. Galen advises all students of medicine to study at Alexandria because there was a human skeleton and a study of osteology could be carried on.

Galen followed two general modes of treatment in his accounts of cases: (1) Regimen or diet; (2) bloodletting. As to diet, he says: "In every sick man look from the very first day to the two things which Hippocrates bids us consider in ordering regimen, namely, the greatest probable intensity of the disease and the strength of the patient. In long cases unless you feed the patient well, you will kill your man and the disease together." In bloodletting the general rules he relied on were: (1) Never bleed a patient under fourteen years of age; (2) Bleed less readily in summer and winter than in the more moderate seasons; (3) Bleed fair, soft-skinned people like the Gauls and other northerners and the people from the south or from Egypt less readily than the Greeks and Italians. It is clear, however, that Galen did not bleed indiscriminately as did Indian, Italian and Spanish physicians.

Galen's great drug was theriaca which contained a large amount of opium, and several other drugs. He also treated diseased conditions upon the principle of *per similia* as well as *per contra*, for we find that he gave powdered snakes to those who had been bitten by snakes.

Coming now to the diseases of the respiratory organs, described by Galen, we find pleuritis and peri-pneumonia mentioned often. Un-

der pleuritis Galen included all of our cases of pleurisy and also all those cases of inflammation of the lung where the pulse was hard and the breathing not difficult. All the remaining cases of pneumonia were called peripneumonia. So we see that Galen had noticed that the sputum was not invariably rusty in pleuritis but was always so in peripneumonia. Galen says that pleuritis generally lasts seven to nine days. His treatment was hot fomentations, bloodletting from the affected side and purgation. Acute bronchitis was included under peripneumonia. He used opium, mandrake, and henbane for all cases where secretions from the chest were abundant.

Galen described two types of phthisis: (1) A chronic form of noninflammatory form which comes on insidiously, probably caused by corruption of the blood. The symptoms were a cough, great weakening in patient, abundant raising of sputum, no hemoptysis, but a lung abscess, *ulcus pulmonus*, arising without inflammation. The treatment for this form was to bleed in the beginning if the patient were strong enough, and to give opiate confections at night to check cough and to strengthen patient. A warm, dry climate was considered best for these patients. Therefore he sent many of his phthisic patients by sea to Tabiae, a village on the southern side of Vesuvius and close to the Bay of Sorrento in which sheltered climate they lived principally upon milk warm from the cow, sometimes with the addition of honey or salt if the bowels were confined. Galen also used narcotics combined with pepper, horehound, and gallanga in treatment of this form of phthisis. When the sputum was too tenacious to be easily expectorated, he used squills, and oxymel in large doses. Confections of resin, myrrh with turpentine were also used. These confections were said to have cured one of the emperors but as a whole Galen considered the prognosis in this form bad. (2) The other form of phthisis described by Galen is the "acute type or ulcerative form which comes on hemoptysis, the hemorrhage being caused by straining or catarrh." As a result of the hemorrhage he said inflammation resulted and an abscess formed which he called *ulcus pulmonus*. These abscesses in the lungs were classed with abscesses in stomach, intestines, and other organs. In order to check the inflammation he used to resort to severe treatment as will be seen by the following account of his treatment of a case. The first is that of a great lady who sent for him in consequence of a slight attack of hemoptysis. Galen says: "I did not like to bleed her as she had had a catarrh for four days and therefore had gone almost without food, but I ordered a sharp clyster (enema), had her legs and arms rubbed with a stimulating preparation, and bound, and gave her weak barley water and some fruit for diet. At bedtime I administered theriaca, the opium in which produced sleep and checked the secretion. Next day the catarrh being ended it was quite plain from the character of the breathing and the cough, that the lungs required cleansing. I kept her perfectly quiet and silent, had her limbs rubbed and bound and had the whole body rubbed and the head shaved and a stimulating application used to it. In the evening again I gave theriaca with less opium than the night before. The same plan of treatment was from that time continued, with the addition of honey as an expectorant, and good food was given to keep up the strength." I

could not find further account of the case but think it was a cure as he did not report any cases but cures. Regarding the second case, Galen says: "A young man who had a cough, not from catarrh but from a cold affecting the organs of respiration, had spit up half a pint of blood. I bled him twice on the first day and twice again the next day, had his limbs rubbed and bound on the first day and gave at night a confection containing opium. The second day after bleeding I applied thapsia (rubefacient) to the chest and the same on the third day. For the first two days I allowed only weak barley water, on the third day stronger barley water and some fish or other light food. I continued to give the confection on the second and third evenings for it produces sleep, relieves pain, and checks secretions. In this way I have cured all those who have put themselves under my care from the first day of the disease."

Galen describes phyma (tumor) of the lungs, which he classifies with tumors of the breast, erysipelas and carcinoma. It stands, according to him, between a boil and a bubo. He describes it as going on without heat or pain, a cold abscess, as being hard and sometimes softening. His conception of phyma is not clear to himself, and his description is vague. Some writers have thought that these tumors corresponded to the tubercle of today but it is generally accepted that what we call tubercles was wholly unknown to Galen. As regards prognosis in phthisis, Galen observed that the patients whose sputum tasted salty were in the worst condition and he followed Hippocrates in recognizing the fatal influence of diarrhea and in looking upon the loss of hair as a very bad sign.

In conclusion it would seem to me that Galen and Aretaeus did not differ very much in their treatment of phthisis or tuberculosis. I think the description that Aretaeus gives of the patient suffering from this disease is much better than any thing I could find written by Galen. The treatment is about the same. One advance that Galen did make was in recognizing the two forms, the acute and chronic phthisis. Osler in his new "System of Medicine" says: "The conceptions of consumption held by Galen were like those of Hippocrates, nor was any further light shed upon the nature of the disease for fourteen hundred years when anatomical study began."