

sistance, (instruments), and more to their own natural powers of observation ; in surgery especially, diagnosis was a much more accurate accomplishment than at present. Now, the fashion, especially in abdominal disease, is to "get in and find out ;" then, symptoms and conditions were observed more clearly. There were no temperature charts then, and the pulse was more depended on to indicate the condition of the patient, while great attention, also, was given to the expression of the face and the posture of the individual; the appearances of the excreta, too, were closely examined. As an instance of the exercise of these powers of observation I should like to read you an extract from the work of the celebrated Galen.* (Quotation read). One no longer wonders at the great success of Galen when one sees to what good use he put his eyes and how easily he could deduce truths from very slight premises, though his methods were somewhat similar to those employed by the successful quack to-day.

Now, in regard to the pulse, the ancients thought that the arteries contained the vital spirits which were invisible air, for the arteries always appeared empty after death. Galen was the first to show, by tying the carotid in the horse in two places, that the intervening portion contained blood after death. Galen wrote a book on the pulse. He says, "First learn the natural pulse, then appreciate swiftness and slowness, hardness and softness of the coats of the arteries ; then notice the intervals, observe equality and inequality." He then discusses the difference of the pulses of men and women, old and young, with the effects of sleep, of baths, of wine, of mental emotions, and of pain, concluding with a description of the pulse in various diseases. At this time and till long after the pulse was not counted; it is only within a hundred years that the second hand of a watch was used to count the pulse. In the 15th century the pulse was estimated by a water clock. Galileo tested the swing of the great lamp in the Cathedral at Pisa, (from which he got his idea of the pendulum) with his own pulse, which led to the isochronism of the pendulum being discovered. This led to the production of an instrument called the "pulsilogy", now long forgotten. It consisted of a scale of inches and a cord with a movable weight marked with a transverse line. The number of beats of the pulse corresponding to a given length was calculated by direct experiment depending on the isochronism of the pendulum. Thus a pulse would be spoken of, not by the number of beats, but of so many inches. (Lecture by Dr. Norman Morse, *Lancet*, Dec. 4, 1897.)

* The quotation, which was rather lengthy, described how Galen astonished his friend Glauco by making a diagnosis of an obscure disease merely by observing the surroundings of the patient and his appearance ; and he not only told the patient, who was a physician, what he had, but also what he thought he had, and what medicine he had taken. Of course this was to illustrate the advantages of cultivating powers of observation and making deductions from these observations.