

ANATOMY.

Physiology of the Heart.—M. FATON transmitted an essay containing his researches on the sounds and movements of the heart. The following are among the chief conclusions at which the author had arrived:—

The entire volume of the vascular system of the thorax undergoes no sensible change from the play of the different parts of the heart whilst that organ performs one complete beat; the heart itself undergoes but little change of form or situation by the contraction of its different parts. The changes in the capacity of the auricles and ventricles result principally from the displacement of the auriculo-ventricular septum, which is more extensively displaced than either of the walls of the heart during its movements. The dilatation of the cavities results from the antagonism of the fibres on each side of this septum, from the tendency to contraction in the lungs, and from the afflux of blood into the cavities, of the heart. The base only of the ventricles is displaced during their systole. The heart exerts the action of suction on the veins, by which it influences the circulation in these and the lymphatics. The heart and thoracic vessels are augmented during inspiration, and diminished during expiration: the respiratory movement contributes to the force and rapidity of the circulation of the blood. The rapidity of the circulation is not in relation to the frequency of the pulse. The venous blood continues to flow into the heart during the contraction of the auricles. Expiration produces no reflux in the retrograde course of the circulation. —*London Med. Gazette.*

On the Influence of the Fifth Pair of Nerves on Vision. By Dr. SKOKALSKI. The first branch of the fifth is generally considered as exclusively a nerve of sensation, it is interesting, therefore, to inquire why filaments of this nerve are distributed to the muscles of the eye in conjunction with the nerves of motion. The author endeavours to decide the point in a work, of which the following are the conclusions:—

1. The fifth pair serves, by the branches distributed to the eye, to give us consciousness of the force and extent of the ocular motions.

2. By this consciousness we are enabled to judge of the size and direction of objects.

3. Sight does not depend solely on the retina, but on a combined action of the retina and the fifth pair.—*Archiv. für Physiologie, Heilkund.*

MEDICAL JURISPRUDENCE.

On the Post-mortem Appearances in Death by Drowning. By Dr. RIEDELL.

—The following are the results of a series of experiments by Dr. Riedell:—

1. The cadaveric rigidity does not occur more slowly than in other modes of death. This phenomenon is accelerated by high temperature of the water.

2. The accumulation of blood within the cranium was inconsiderable, and effusion of blood had not occurred in any case.

3. The epiglottis was constantly found erect.

4. The diaphragm was always found relaxed, its convexity being toward the thorax. The intestines were not pressed against the abdominal walls. The lungs were usually found in the condition of an imperfect expiration,—owing, doubtless, to the distension of these organs by fluid, the presence of which presented an obstacle to the collapse of the thoracic parietes.

5. In half the number of instances the two sides of the heart contained equal quantities of blood; in the other half the right side contained the larger proportion. In one case only the emptiness of the left side contrasted strongly with the fullness of the right. The quantity of blood in the liver varied greatly.

6. The bladder was some times empty and some times full. It was almost always distended with fluid in animals drowned in a state of stupor.

7. The blood in the heart and large vessels contained coagula, in autopsies made from two hours to five days after death. Coagula were found three quarters of an hour after death, in the heart of a cat drowned in boiling water (!), while in animals drowned in ice-cold water, the blood was still fluid and cadaveric; rigidity was absent.

8. In the majority of cases the fluid has passed into the stomach. In animals previously killed, and placed for twenty-four hours in water with the mouth wide