

represents the fibrine ; and these data being obtained, the amount of blood-corpuscles, and that of fibrine in 1000 parts of the blood, are determined by a simple calculation.

The general correspondence between the instances adduced in the present communication and those of my former contribution is sufficiently obvious ; the proportion of red corpuscles in patients to whom oil had been successfully administered exceeding that ascertained to exist in the first stage of the disease, in those to whom this medicine had not been given. It is commonly stated, and the remark is in harmony with my own observations, that the proportion of red corpuscles is usually less in women than in men. To this rule the seventh case in the Table furnishes an exception, and it was further remarkable from the fact that a murmur could be heard in the jugular vein ; a phenomenon commonly attributed to sparseness of blood-corpuscles, but in this instance associated with more than the average amount.

The case numbered thirteen in the tabular analyses would seem directly opposed to the conclusion to which the other observations tend, but the patient had suffered from repeated attacks of spitting of blood so extreme as to place her life in jeopardy. This profuse hæmorrhage would naturally increase the poverty of the circulating fluid, and thus counteract to a great extent the apparent influence of the remedy.

In the fourteenth case ozonized oil had been administered.

The rapid reproduction of red corpuscles implied in these observations, suggests inquiries of special interest ; but I purposely abstain from any attempt to explain the mode by which it is effected.

II. "Further Observations on the Power exercised by the Actinæ of our Shores in killing their prey." In a Letter to W. BOWMAN, Esq., F.R.S., dated Oct. 25, 1858. By R. M'DONNELL, M.D. Communicated by Mr. BOWMAN. Received Oct. 27, 1858.

DEAR SIR,—In the course of last winter I had the honour, through your kindness, of making a communication to the Royal Society "On the Power exercised by the Actinæ of our Shores in killing their prey ;" allow me now, through the same medium, to correct the

view which I was at that time led to adopt, that this power is due to electrical influence.

In the communication alluded to, the idea of these creatures being electrical, was based on the fact, that when the nerve of a frog's limb, prepared after the manner of Matteucci's galvanoscopic frog, is seized by the tentacles of an actinia, contractions of the muscles promptly ensue. It was admitted, however, that all attempts to produce deflection of the galvanometer-needle had failed, and this being the very doubtful state of the question, I ventured to look forward to the pleasure of making another communication on the subject when I had had further opportunities of examining the *Actiniæ* in health and vigour.

I have now had these opportunities, and have found that the most delicate electrometers are unaffected by these animals, and I conceive that by the following simple, and indeed obvious experiments, all idea of the *Anemones* of our coasts being electrical may be set aside.

A galvanoscopic frog's limb having been prepared, with the nerve as long as possible, it is laid on a piece of perfectly clear glass, so that the nerve hangs over the edge. The pendent nerve is lowered into the water containing an *Anthea*, and the nerve is brought in contact with a *single one* of the long tentacles of this creature; immediately vigorous contractions follow in the muscles of the limb, and if everything be left undisturbed, these twitchings will continue for some minutes after the nerve is withdrawn.

If, however, a thread be tied round the nerve, below the point where the tentacle of the *Anthea* had touched it, all twitchings at once cease. If the portion touched by the tentacle be snipped off, all twitchings also cease. Having thus repeatedly observed that contact between the nerve and a single tentacle was followed by muscular contractions, which at once ceased as soon as the portion of the nerve which had been in contact with the tentacle was removed, it occurred to me to try the effect of applying to the nerve a single tentacle removed from the body of an *Anthea*. I therefore had recourse to the following experiment:—The hind leg of a frog is separated from the body, the sciatic nerve dissected out carefully, so that the nerve be not crushed or injured, and the thigh cut away. The limb with the nerve thus dissected out as long as

possible, is to be laid on a plate of clean glass ; a silk thread is tied round the base of one of the tentacles of an *Anthea*, and the tentacle snipped off. The mere tentacle separated from the animal to which it belonged is drawn gently across the nerve, or laid upon it, at the upper part : immediately muscular contractions follow in the leg. These contractions cease at once if the portion of the nerve touched by the tentacle be cut off. There can, it seems, no longer be any doubt that the muscular contractions are excited, not by electricity, but by irritant action of the urticating organs of the *Anthea*, which being more powerful in this respect than other *Anemones*, has been chosen for experiment, although other varieties give similar results.

I now see I was in error in supposing that the effect produced on the frog's limb by the *Actiniæ* could be transmitted along a wire. I presume that in preparing the experiment alluded to, which I performed in the open air, at the sea-side, some of the irritant materials of the *Anemones*, which I had possibly handled, had been brought by my fingers in contact with the nerves, and I was thus deceived.

I am very happy, however, that I am myself the first to perceive and correct this error.

I remain, &c.,

ROBERT M'DONNELL.

W. Bowman, Esq., F.R.S., &c. &c.

III. "On the Digestive and Nervous Systems of *Coccus hesperidum*." By JOHN LUBBOCK, Esq., F.R.S., F.L.S., F.G.S.
Received Oct. 4, 1858.

In the early part of last spring I began to investigate the anatomy of this interesting little insect, with the intention of studying only the organs connected with the development of the ova and pseudova. It soon, however, became evident that the structure of the intestinal canal, on the one hand, had been entirely misunderstood by those who had previously examined it ; and on the other, that the nervous system, far from being similar in all specimens, varied in the most extraordinary manner. It is therefore proposed in the present communication to give a very brief description of the digestive organs and of the nervous system.