QUARTERLY SUMMARY

OF THE

IMPROVEMENTS AND DISCOVERIES

IN THE

MEDICAL SCIENCES.

ANATOMY AND PHYSIOLOGY.

1. *On Life*.—Dr. LIONEL BEALE, in a paper read before the British Association for the advancement of Science at its meeting in September last, commenced by remarking that what he said would be both theoretical and hypothetical. The differences between vital and physical agencies were ably discussed, and Spencer's theory, that assimilation and reason were life, was skilfully combated. Assimilation was not common to the life of all orders where there was certain vital agency. The author alluded to the various kinds of life, and showed that life could not be disturbed or passed through space. The matter in every living cell might be divided into three parts—that which was in a state of life; that which was dead, but had been alive, and that which was lifeless, but would be alive, and after passing through that state would die. The living cell had been compared to a laboratory; but what laboratory was self-serving and self-creating, and what machine could make up waste like the living cell? Dr. Beale noticed the various kinds of life, and proceeded to notice vital movement, in which he remarked that there was no expenditure of force, and alluded to the fact that living matter moves upwards in spite of the attraction of gravitation. The difference between vital power and physical force, and the fact that the one was not attributable to the other, formed the concluding argument of the author.—*Med. Times and Gaz.*, Sept. 23, 1865.

2. *Experiments to determine the Period at which the Spleen is most actively engaged in the Discharge of its Function*.—MM. ESTOR and ST. PIERRE, after commenting upon the vagueness of our knowledge of the function of the spleen, remark that only one point is certain, that the spleen undergoes a considerable augmentation in volume in certain physiological conditions, and especially during the act of digestion, whence it has been regarded as simply fulfilling the purpose of a diverticulum. Applying, however, the observations of Bernard, in respect to the change of colour and the quantity of oxygen contained in the venous blood of a quiescent and of an actively secreting gland to the spleen, and from the results of carefully performed analyses, they have arrived at the conclusion that the blood of the splenic vein, during the period of fasting, contains nearly double the proportion of oxygen that is present while gastric digestion is being actively carried on, and consequently that the period of functional activity of the spleen alternates with that of the stomach. The mean of six experiments showed that in 100 volumes of arterial splenic blood there were contained 14.38 volumes of oxygen, in 100 volumes of the splenic venous blood of a fasting animal there were 11.53 volumes of oxygen, and in 100 volumes of the splenic venous blood of an animal in full gastric digestion there were only 5.70 volumes of oxygen.—*Brit. and For. Med.-Chir. Rev.*, Oct. 1865, from *Robin's Journ. de l'Anat. et de la Phys.*, March, 1865.