

shock, asphyxia, strychnine convulsions, inhalation anæsthetics, and so forth. The acidosis throws increased work upon the organs by which the neutralisation of acid is accomplished, and diseases ensue. Prof. Crile's practical point is in general terms an application of the principle of the conservation of energy to the organism, especially through the exclusion of harmful stimuli. Along this path he was able as a surgeon to "perfect the shockless operation," and he is enthusiastic as to similar therapeutic methods of dealing with the manifold "conditions resulting from the over-excitation of the 'Kinetic System,' whether by psychic, traumatic, infection, foreign protein, or drug stimulation."

(3) Throughout the book we feel the influence of the significant idea that health and disease alike must be studied in their evolutionary setting, for the intricate system of adaptive arrangements and responses has been wrought out in the course of an age-long "drama of adaptation." "In the distribution of contact ceptors, of chemical ceptors, of the mechanisms for overcoming pyogenic infections and for blood-clotting; in the distribution of pain areas and of special reflexes we have—a phylogenetic summary of the evolution of man." That all this attainment and registration of adaptations has been effected by a succession of mechanisms, *i.e.* systems adequately described by mechanical formulæ, we are unable to believe, and we have found nothing in this vigorous volume to incline us to transfer the author or ourselves from the category of organism to any other.

#### OUR BOOKSHELF.

*Raymond: or Life and Death. With Examples of the Evidence for Survival of Memory and Affection after Death.* By Sir Oliver J. Lodge. Pp. xi+403. (London: Methuen and Co., Ltd.) Price 10s. 6d. net.

LIEUT. RAYMOND LODGE was killed by shrapnel, near Ypres, in September, 1915. In this volume, which is at once scientifically important and humanly touching, we are given in part i. a selection of letters which show Raymond's fine and attractive personality; in part ii. some of the evidence which indicates his continued existence and occasional communication; and in part iii. Sir Oliver Lodge discusses the philosophy of the subject, with large tolerance but full conviction. Survival is reasonable enough. Life is not a form of energy. It guides or directs energy, but there is no sound reason to believe that it goes out of existence when it ceases to manifest through a particular body.

Of part ii., which more specially concerns a scientific journal, the most striking incident is the one referring to a photograph which was said—through two sensitives—to have been taken, though the family knew nothing about it, and learnt nothing for some months. This photograph was described very minutely. It was said to consist of a group of soldiers, numbering a

dozen or more men, some standing and some sitting; Raymond would be found at the front, sitting down, with a stick, and a man was said to be leaning on him or trying to lean on him; vertical lines would be prominent at the back, and of the figures the most prominent would be that of a man whose name began with B. Ultimately the photograph (taken in Flanders) came to light, and all the details corresponded with the description received. As given in full in the book, this incident is very impressive, and it is supported by many others of varying degrees of evidential weight.

The volume is inevitably of an intimately personal nature, but a restrained and scientific temper is maintained throughout, and contentions are supported by facts. It will probably be considered the most important psychical book since Myers's great work on Human Personality; and it is unique in the sense that it is the first large book of its kind to be published by a man of science of the first rank.

J. A. H.

*Elements of Military Education.* By W. A. Brockington. Pp. xvi+363. (London: Longmans, Green and Co., 1916.) Price 4s. 6d. net.

In his prefatory note the author says: "This book is intended primarily for use in public and other secondary schools which have O.T.C. and cadet contingents; . . . hence the attempt to show the relation of some parts of military education to the ordinary school curriculum." In this attempt he has been remarkably successful, and he will have earned the thanks of those who are trying to adapt school education to present circumstances. The book is, therefore, to be recommended to headmasters and others as well as to the officers of cadet contingents.

The author has taken from the official manuals (either by quotation or reference) just those parts which are suitable for elementary military training, and has omitted the less essential details. But he has done more than this, for he has added much sound advice both to officers and cadets. Thus at the end of a chapter on minor tactics he has given ten pages of memoranda of common errors remarked by examiners for Certificates A and B of the O.T.C.

The book shows a certain lack of balance, some portions of the work being treated in full detail, while others are inadequately dealt with. Thus one page on the chemistry of cordite, three pages on the elementary mechanics of projectiles, and seven lines on the purification of water by chemical means are either too many or too few. Also, the chapter on map-reading is too condensed to be read without reference to other books—in which case much of the detail is unnecessary.

No account is given of the applications of electricity in the field, a subject which is being taught in many schools; and space might have been given to the physiology of respiration and the effects of poisonous gases of different types. The excellent "Handbook of Artillery Instruments" might have found a place in the list of military books.

C. L. BRYANT.