There is one statement that we feel cannot be accepted without some consideration: "If a man ever scales 9 stone there must have been a time at which he weighed $4\sqrt{5}$ stone." Is this necessarily so? S. B.

LECITHIN AND ALLIED SUBSTANCES.

Lecithin and Allied Substances: The Lipins. By Dr. H. MacLean. ("Monographs on Biochemistry.") Pp. vii+206. (London: Longmans, Green, and Co., 1918.) Price 7*s.* 6*d.* net.

THE time had come when an account of the chemistry of lecithin and allied substances should be written and must be read by everyone interested in bio-chemistry. Ten years ago it had not. At that time the subject could only have been presented as an unprofitable series of disputes on insecure premises. Now there must be many for whom this monograph will be a revelation, many who, though they may have read, have not collated the important contributions to the elucidation of this most difficult subject that have appeared in the last few years, and who, when they see this done admirably, as it is done here, will realise that a new epoch in the history of bio-chemistry is being marked out.

It is just ten years since Dr. MacLean published the first of a series of papers in which, starting from the fact that the amount of choline obtained in the hydrolysis of lecithin was always less than the supposed structure of this substance required, he established good ground for his belief that this is due to the fact that lecithin, as ordinarily obtained, is mixed with kephaline, in which, as we know now from the work of Parnas and his associates, the basic group is aminoethanol. Dr. MacLean has described a method of purifying lecithin, so that it gives the theoretical yield of choline, and, therefore, is free from kephaline. Other impurities that are associated with lecithin which he can by his method remove may, indeed, so disguise it as to make it appear as some one or other of those vague phosphatides of which too many have been described, and of which we are told little but that they are soluble in this and insoluble in that solvent, and contain nitrogen and phosphorus in a certain proportion. Lecithin and kephaline now mean something more than this.

Then from the limbo of protagone there have emerged sphingomyelin and the cerebrosides, with their common basic component sphingosine, substances that forty years ago Thudicham had seen before their day had come. In the last few years the work of Thierfelder, of Rosenheim, of Lapworth, and, above all, of Levene, who, to the advantages of a richly endowed institution, has added the enthusiasm and the patience of a great investigator—work that has finality—has given to these somewhat ghostly shapes reality and precision of outline. This work on the constitution of sphingosine and on the strange fatty acids of sphingomyelin and the cerebrosides confers on these substances a living interest, now that their chemical structure is acquiring definition, as great as that which has been focussed, for instance, on the nucleic acids or on hæmatine. In all there are the same elements of novelty, mystery, and wealth of biological significance. Dr. MacLean is to be congratulated on his opportunity no less than on the use he has made of it.

It was no doubt unavoidable that this book, coming just when it has, should still contain, in addition to the chapters describing the advances of recent years, whole sections devoted to the unwelcome task of pronouncing judgment on so many substances, named and unnamed, the discovery of which has not been established. Dr. MacLean would probably, too, have preferred not to have had to commit himself in the matter of nomenclature. The things that count have good enough names. Lecithin, sphingosine, and sphingomyelin are appropriately and successfully named, though it is true as much cannot be said for kephaline, phrenosine, or kerasine. Schematic nomenclature matters less, and it is in this that agreement has not been attained. When the subject reaches the schools this will be added to it.

A FAUNISTIC SURVEY.

The Invertebrate Fauna of Nottinghamshire. By Prof. J. W. Carr. Pp. viii+618. (Nottingham: J. and H. Bell, Ltd., 1916.)

THE Nottingham Naturalists' Society is to be congratulated on having produced a finely executed survey of the invertebrate fauna of the county. It is part of a survey which was resolved upon when the society completed its fiftieth year, the task being placed in the competent hands of Prof. J. W. Carr. He has been efficiently helped by collectors and by specialists, and it is satisfactory to read that "practically every species recorded has been submitted to and named by a leading authority in the group to which it belongs." The whole work shows a high standard of carefulness, and it will be of great service to active local naturalists, who have now an authoritative list to which they may add. That there are many additions to be made is plain when we look at the sparseness of the records as regards Nematodes, Rotifers, Leeches, and some other classes.

Among the excellent features of this "Fauna" we may mention (1) the precision which so often marks the record of the particular kind of environment frequented by a particular species, and (2) the insertion of introductory descriptions of phyla, classes, orders, and sometimes even families. They are tersely and clearly phrased, and greatly increase the value of the lists. The consistent use of different type-founts for the various grades of classification from phylum to species is another instance of carefulness, and the whole typography is excellent. As data accumulate, the indefatigable editor proposes to append supplements, and already there are nearly 300 additional species of Diptera waiting for admission. The Vertebrate