

of an inch in diameter. The shad's eggs are separate and neither cling to each other nor float at the surface of the water. They are comparatively large (one-seventh of an inch in diameter) and roll about amongst gravel, etc., in shallow streams and rivers above tidal limits. As Professor Prince's four beautiful drawings of the young alewife or gaspereau (on Plate X) are the first ever executed of these early stages, they are of great scientific value, while the detailed drawings of the scales, etc., are of extreme interest. Professor Prince also furnishes a very readable account of the profound and technical researches of Professor A. B. Macallum, one of the most distinguished scientific men whom Canada has produced. The researches of the brilliant Professor of Physiology in Toronto University are better known in England and Germany than in our own country, and London last year honoured Dr. Macallum with the coveted F. R. S. of England. Professor Macallum investigated the "Chemistry of Medusæ" for several seasons in the Biological Station and published his results in the *Journal of Physiology*, Vol. XXIV. Professor Prince, who edits the present publication, desired a less technical and more popular version of the published paper; but for various reasons, it is understood, that a simplified account could not be prepared by the author in time for the present issue. Professor Prince himself therefore wrote this very fascinating version of Dr. Macallum's paper, minus technicalities, and presented in a revised popular form. The lovely floating medusæ or jellyfish, often brilliantly coloured, are generally thought to be composed of delicate, transparent skin and water. There is certainly little solid matter in them. Professor Owen dried a jellyfish, which weighed two pounds when alive, and found that its weight was barely thirty grains, or about one-five-hundredth of the original weight. Professor Macallum establishes the complex composition of the "jellyfish juice," and the amazing physiological independence and stability of the jellyfish cells. He disproves Professor Loeb's contention that the chemical nature of the surrounding water directly affects either the chemical nature of the medusa or its living movements and functions. Professor Macallum proves that each has its own individual resisting power and a wonderful independence of outside chemical changes, while the cells, composing the medusa's body, have a surprising selective power, and accept or reject the various salts in the surrounding sea-water, as the experiments demonstrated. Nay, more, their chemical constitution appears to be that which must have characterized animals in the primal seas of our planet. May it not be that the serum, the clear part of our own blood, is the