A NEW METHOD OF DISTINGUISHING BETWEEN ORGANIC AND INORGANIC COMPOUNDS OF IRON. BY A. B. MACALLUM, M.B., PH.D. Associate Professor of Physiology, University of Toronto.

FIRM organic compounds of iron are, as shown by recent investigations, much more abundantly present in animal and vegetable organisms than was formerly supposed to be the case, and some of these, the chromatins, are of the highest importance in the life of the cells¹. Bunge², whose investigations first stimulated interest in them, called them organic, but, beyond describing the reactions they give with ammonium sulphide and with acid ferrocyanide solutions, he furnished no method whereby these can, in the last resort, be definitely distinguished from inorganic and albuminate compounds. I have indeed found that in the great majority of these compounds the warm sulphide reagent only after a long application sets free their iron as ferrous sulphide, but there are organic compounds in which this result is obtained more readily. Bunge, however, used the diluted reagent on one of the latter class, namely, the hæmatogen of egg-yolk, and determined that it gave no reaction for iron until after half-an-hour, while a day was required for its full development, but when the quantity of the reagent used was great, the reaction appeared more quickly. If the acid ferrocyanide solution was allowed to act on the compound, the readiness with which the Prussian blue reaction appeared depended on the quantity of hydrochloric acid added. In this manner Bunge would distinguish between such organic compounds on the one hand and those of the inorganic and albuminate class on the other. He further claims that hydrochloric acid alcohol³ extracts the iron of inorganic and albuminate compounds, while it leaves unaffected the iron of organic preparations.

¹ Macallum. Quart. Jour. Mic. Sci. xxxvIII, p. 175. 1895.

² Zeit. f. physiol. Chemie, 1x. p. 49, 1895.

³ This contains 10 volumes of hydrochloric acid of 25 per cent. strength and 90 volumes of 96 per cent. alcohol.