diately enter and fertilise. These changes are depicted in figs. 1 and 2. It seems singular, as Lankester has remarked, that we should find in these most minute Protozoa, a process of fertilization identical almost step for step with the process as we find it in the vertebrate phylum. One can hardly read MacCallum's (3) graphic description of his discovery of this process without feeling how well his words would describe the fertilisation of the egg of an echinoderm, or a fish, as we see it under the microscope. After fertilisation, the fertilised ovum, or as it is now called, the "zygote," affixes itself under the outer muscular coat of the insect's stomach remaining motionless and growing rapidly in sizc. It develops a distinct capsule, its substance dividing up into from eight to twelve round bodies or "meres." Each mere consists of a central residual mass of protoplasm or "blastophore," whose surface is covered with numerous filamentous



FIGS. 1 and 2. Diagrams illustrating the life-history of the parasite of aestivoautumnal fever of man : Hæmomenas præcox. The upper two rows of figures representing the changes taking place during the growth of this parasite within the blood of man, the formation of sporocytes and gametocytes. The lower two lines of figures represent the further development of the gametocyte within the stomach wall of the mosquito (Anopheles), the polar bodies and the spermatozoa or microgametes are shown, finally the fertilized macrogamete or zygote.

bodies or outstanding processes, the "blasts." Fig. 3. When the zygote reaches maturity, the central residual mass or blastophore disappears, and its capsule is left crowded with these blasts, which finally burst their capsule, wander free in the body cavity of the gnat, to collect in the salivary glands of the insect, to pass thence into a fresh host, there to develop again as minute amœbulæ. Now the peculiar part of this is similar to the manner in which the male elements or spermatozoa develop in a very large class of animals, in fact, it is not quite

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