It seems to me we have in the case of the spermatomorphous or andromorphous blasts or "young" of the malaria parasite a distinct proof that the spermatozoon is, so far as its essential nature is concerned, capable of acting the part of the solely sufficient germ in a parthenogenetic reproduction or multiplication, and that it is, therefore, not of the essence of "solely sufficient germs" that they should be egg cells or öomorphous. At any rate, we have, I think, in the blasts or filiform young of the malaria parasite, an altogether exceptional case of elements of the male form carrying on without acting as fertilisers, but as "solely sufficient" for the life of the species. We have here, indeed, a parthenogenesis by means of male elements. The parthenogenesis hitherto known in animals is "gynæcocratic," that exhibited by the blasts of the Hæmamœbidæ is "andocratic."

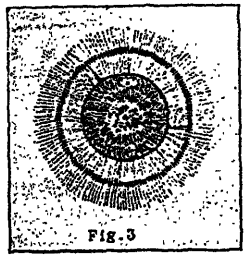

FIG. 3. Isolated blastophore of the malaria parasite, bearing a number of blasts affixed to it, each by one extremity. (Ross and Fielding-Ould.)

While the multiplication of the flagellate zoospores of some plants may perhaps be placed in this same category of reproduction, yet it is the peculiar mode and manner of the development of these blasts in the malaria parasite, as Lankester remarks, which so truly stamps them as male cells, and renders comparison with this process as it occurs in the Protophyta quite a different matter. Numerous attempts have been made from time to time, to compare the process of conjugation as we get it in such organisms as Paramœcium, and Stylonychia, with the process of the union of the germ-cells in the multicellular animals. Bütschli long ago pointed out how cell divisions tend to run in cycles, each of which begins and ends with a process of conjugation or fertilisation. While the cells produced in the multicellular forms, as the result of one act of fertilization or conjunction cohere to form the multicellular body, in the unicellular forms, the cells produced as the result of one cycle following conjunction, are collectively comparable to the multicellular body. While on morphological grounds this comparison is quite correct, and is the base of Haeckel's and Virchow's conception of the "cell-state," it affords little or no light on the subject of fertilisation or conjunction. Although we know in the case of the infusoria, con-