

particular, Dr. Mary Scharlieb, the doctor of medicine, differs in emphatic terms from Dr. Marie Stopes, the doctor of science and philosophy.

The second, third, and fourth aspects of the subject of the control of parenthood scarcely fall to be reviewed in a journal like NATURE, but the first may fairly claim notice. Prof. Hill's contribution is rather too closely packed with facts regarding embryology, pregnancy, housing, and food to be grasped easily in its significance; but its author is sturdily opposed to artificial means of preventing conception which "demand a premeditated act in what should be a natural function and disturbs the normality of the sexual act." Such a use of preventives tells also far more against the woman than the man. Prof. Hill sees the risks, the physiological risks as well as the social, of the only child. His solution of the problem of keeping down the vigour of sexual desire is "a wisely regulated diet, *plus* hard physical exercise and occupation."

Prof. J. Arthur Thomson, from the point of view of biology, writes with all his accustomed picturesqueness of imagery, but the brilliancy of his phrasing is somewhat of a danger, and may even constitute a sort of verbal camouflage, a risk which he himself seems to recognise when in his closing paragraph he says: "We must not, however, look at things too biologically . . . we are mind-and-body creatures, and the greatest thing in human life is love." After enumerating all the evils which may arise from birth control, he directs attention to the fact that the good side of the reduction of the birth-rate deserves more consideration than it usually receives. It may improve the health of both mothers and children, give quality for quantity, render life less anxious and earlier marriage more practicable, work against war, make woman's position more independent, and so forth. His contrast between the keeping up of numbers by the fertility or spawning method, with its unlimited production of lives the majority of which almost immediately cease, and by what he finely designates "economised reproduction associated with increased parental care," is absolutely conclusive in favour of the latter plan.

The spawning solution among the lower animals themselves is less effective in the long run than that which Peripatus adopted—viz. the giving birth to a few miniature adults ready at once to fend for themselves. "The tapeworm, with its degenerate body and drifting life of ease, has its millions of embryos; the golden eagle, with its differentiated body and controlled life, has two eaglets at a time." Yet it is not securely known that high individuation directly lessens fertility,

for whilst some of the greatest men were childless a fair list of famous fathers can be made out. After all, the strictly scientific or the rigidly biological aspect of human reproduction refuses to be dissociated from the other ways of looking at things; and Prof. Thomson closes with words which have weight: "If we lose the adventurousness of early marriage on meagre material resources, and the delight of having children while we are young enough to sympathise with them, we are missing some of the fragrant flowers of life."

Our Bookshelf.

Recueil de l'Institut Botanique Léo Errera (Université de Bruxelles). Publié par L. Errera. Tome iv. Pp. xi+653+plates. (Brussels: Maurice Lamertin, 1920.) 50 francs.

THIS ponderous volume contains a selection of papers published in various scientific journals from 1885 to 1900 by the late Léo Errera and other Belgian botanists. There are a few short communications by Errera at the beginning of the volume of a general nature, such as those on the law of the conservation of life, spontaneous generation, and the mechanism of sleep. The volume is mainly a collection of papers on plant cytology and on the physiology of organisms of simple structure. Workers specially interested in these branches will appreciate the advantage of associating in one volume a number of papers scattered through many different journals, but as all these journals are fairly accessible the production of a great mass of reprints may seem somewhat extravagant in view of the difficulties attending scientific publication at the present time.

The volume contains thirty-two papers in all; nineteen, mostly brief, are by Errera, including one in which the inheritance of acquired characters in a mould-fungus (*Aspergillus*) is maintained; others deal with protoplasmic movement, the ascent of sap, and an apparatus to demonstrate the mechanism of stomates. Communications by E. Laurent and G. Bulloet deal with the physiology of growth and curvature of the fungus *Phycomyces*; and Jean Massart discusses the sensibility to various external influences of unicellular organisms under several headings. The irritability of *Noctiluca* he describes as analogous to that of the Sensitive Plant, the essential difference lying only in the manner of the reaction. The longest paper is by E. de Wildeman (published in 1893) on the formation of the dividing wall in cells; the subjects of study were mainly species of mosses and brown and red seaweeds.

Manuel de Topométrie. Opérations sur le Terrain et Calculs. By Jules Baillaud. Pp. vii+222. (Paris: H. Dunod, 1920.) 13 francs.

In this book Capt. Baillaud sets down his war experience in the preparation of the plans neces-