FIGHTING THE FLY PERIL.

A popular and practical handbook, by Mr. C. F. Plowman and Mr. W. F. Dearden, M.R.C.S., D.P.H., J.P., on "Fighting the Fly Peril," * has been opportunely published by Mr. T. Fisher Unwin. The book has an introduction by Dr. A. E. Shipley, F.R.S., Master of Christ's College, Cambridge, whose own illuminating book on "The Minor Horrors of War" has already been reviewed in this JOURNAL.

In their Prefatory Note the authors point out that "bibliography on flies is large and comprehensive, but consists chiefly of such works as ordinary people do not buy. Scientists discover truths and may lay down health-laws for the guidance of the people, but unless knowledge of these is within easy reach of the masses, there cannot be the necessary cooperative action which alone can obtain abatement of a great evil, such as the spread of disease by flies. The present work is addressed to sensible, practical people with little time, perhaps, for study of scientific problems, but who have ideals in cleanliness, and wish at least to know what is the right thing to do, and then how to do it—and get it done."

Dr. Shipley, in his introduction, writes that " till some score of years ago the ordinary man in the street, or, as they say in America, the man on the cars,' regarded the larger Carnivora and the Reptilia as the greatest enemies of man-tigers and lions, crocodiles and snakes 'jump to the eye.' Now, with our increasing knowledge of the organic world, we know that the depredations of the vertebrates are as nothing compared with those of small microscopic protozoa and certain low species of fungi. These are in the main conveyed to man by insects, and of these, three stand out at once-(i) the flea, which conveys the plague from rat to man or from man to man; (ii) that beautifully delicate, graceful insect, the mosquito, which conveys the malarial organism from man to man, an insect frail and slender, and with gauze-like wings, which, in the opinion of many, destroyed the civilization of ancient Greece, helped to wreck the Roman Empire, and kept for twenty centuries the great Continent of Africa a closed realm; (iii) the household fly.

"With regard to the title of the book. Important as it is to kill every fly, the real key to the whole situation is the manure heap. What we want to get is a cheap and effective means of destroying the ova, the larvæ, and the pupæ in the breeding-places, without destroying the value of the manure. A week or two ago a General commanding the troops in or about a southern town wrote and asked me what steps could be taken to prevent fly pests. I replied the only efficient means of keeping flies down is to prevent their being hatched. . .

"Nothing has been more remarkable during the progress of the war than the eagerness and self-sacrifice of the women of the country in doing everything they can to help the fighting forces. But they have not always had the chance they all yearned for. If I could have my way I would ask all the unemployed women of the country to turn themselves into sanitary corps to fight flies during this and the following summer. Women are far more conscientious, far more patient than men, and they have a sense of cleanliness and hygiene far greater than that of the mere man. If in every village and in every town a corps could be organized of women with power to act, I honestly believe that the appalling mortality from infantile diarrhœa, which lags but one week behind the curve with the greatest abundance of flies, would be most materially diminished, and with it would go many cases of enteric, anthrax, and other diseases that are destroying so many we want to keep alive.

"The rôle that flies play in spreading disease should be taught in schools, at any rate to the older pupils. If we could rear a nation with this knowledge in their minds, we could hope in time seriously to lessen this intolerable nuisance."

The authors deal in their opening chapters with the fly peril from the public health aspect, and the menace of the house fly.

THE SPREAD OF DISEASE.

Concerning the conveyance of bacteria, it is pointed out that "the mechanical transference of bacteria and other micro-organisms from the body and appendages of the fly are sufficient to account for the distribution of infection, but that bacteria and other organisms will live longer in the internal organs than on the exterior of the fly. . . From the gut of the fly infection is spread through the 'vomit spots' deposited from the mouth or through the excreta in the form of familiar fly 'specks.'

"Flies are capable of infecting milk through the alimentary tract or the proboscis, ten or eleven days after feeding on infected material. Flies not hitherto infected will become so through sucking at the deposits left by other flies."

^{*} T. Fisher Unwin, Ltd., Adelphi Terrace, London. 15. net.



