

As Born points out, however, it is a fallacy to imagine that, given the knowledge and the penetrating brain of the mathematician, the equations of physics can be obtained as a result of pure thinking, and the toil of experimenters made superfluous. For none of the notions used by the mathematicians, such as mass, electric charge, electric and gravitational field, energy, momentum, vector-potential, Hamilton's Principle, are evident or given *à priori*. 'Even if an extremely gifted mathematician had constructed them to describe the properties of a possible world, neither he nor anybody else would have had the slightest idea how to apply them to the real world. The problem of physics is how the actual phenomena, as observed with the help of our sense organs aided by instruments, can be reduced to simple notions which are suited for precise measurement and used for the formulation of quantitative laws.' Thus the whole set of concepts used by the theorists come only at the end of three centuries of experiment: they are the culmination of a long inductive process, in which flashes of imagination have alternated with diligent observation and interpretation of facts. There is therefore in Milne and Eddington no resemblance to the late-mediaeval attitude, as represented e.g. by the adversaries of Galileo: for these latter had no contact with Nature, and derived their notions entirely from tradition and metaphysics.

The actual assumptions and epistemological principles of Milne and Eddington are briefly described and examined. Their work is certainly of extraordinary interest and wonderful power; but the lack of accord in their results has caused most physicists to hesitate as yet to accept either theory as part of the established order of science.

E. T. WHITTAKER.

A BLUEPRINT FOR LAY ACTION. By Rev. F. J. Ripley. (Paternoster Publications; 4d.)

One opens that sixteen-page pamphlet with high hopes. At last the laity are to be told what to do to play their full part in the apostolate of the Church. Enthusiasm prevails for the first ten pages where, by an intricate mosaic of quotations, the author from a consideration of the doctrine of the Mystical Body shows 'that the apostolate is one of the duties inherent in the Christian life.' The reader is convinced that every Catholic must be an apostle, and he is ready for action. Alas, here a note of vagueness is struck. Reference is made to 'the lay apostolate' and to the need for organisation. Obviously, to anybody with even a nodding acquaintance with Papal teaching the next step must be Catholic Action, and one hastens on to be told just what organisation to join and how it may best be deployed in the field of apostolic work.

The author, while modestly pointing to the Saint Vincent de Paul Society (in Papal terminology an 'auxiliary' to the lay apostolate) and the Legion of Mary, disclaims all intention of making propaganda

for any particular organisation. Instead is offered, in moving language, an appeal to parish priests to form groups of zealots in their parishes. This, when Popes for years have been stressing that to participate in the lay apostolate, strictly so-called, one must belong to an organisation having a mandate from the Bishop, and so share in the apostolate of the hierarchy: *nil sine Episcopo*; this, when there are by now many Catholic Action organisations with some years of experience *and* with episcopal mandate only too ready to put themselves at the service of any zealous priest. By this time the reader has reached page sixteen, a purple passage and disillusionment. *Non tali auxilio.*

F.J.

THE CATHOLIC DOCTOR. By A. Bonnar, O.F.M., D.D. (Burns Oates; 7s. 6d.)

The relationship between the religious and medical fields affords doctors especial responsibilities in three inter-related spheres, requiring clear guidance from the Church. This Father Bonnar conspicuously supplies; his book, the *locus classicus* for the Catholic doctor, has deservedly reached its third edition.

First, the doctor is a Catholic. Chapters 1 and 3, accordingly, supply a succinct apologetic in which miracles, owing to their medical affinity, are especially considered.

Chapters 4 to 10 and 15 explain the doctor's moral position in the second sphere, wherein controversial subjects like abortion, birth prevention and euthanasia demand a definite ethical standpoint, often in conflict with that of non-Catholic colleagues. Father Bonnar's guidance is comprehensive and medically well informed, although the practical difficulties in effecting principles, when their maintenance involves maternal and foetal death, for instance, is perhaps insufficiently appreciated. A misdefinition has not been expunged, that of abortion as 'the expulsion of a living foetus before the twenty-eighth week. . . .' (p. 77). In fact, the foetus is often dead before expulsion; nor in missed abortion, a clear form of abortion, is the foetus expelled.

Chapters 11 to 14 discuss sensibly, if at times rather pedestrianly, the third sphere, in which the doctor encounters medical conditions of primary interest also to the Church and her priests—in particular, psychological matters. It is to be hoped that space allotted to Freud's methods will in future editions be devoted rather to those of Jung, the greater significance of which to Catholics has been demonstrated recently by Witcutt and his BLACKFRIARS reviewers. The chapter on scruples, though useful, seems directed rather to priests than to doctors. That on pain is probably the best in the book.

Father Bonnar has done a great service to doctors in making this book so concise and readable that even they will find time profitably to study it.

SEYMOUR SPENCER.