

Trivelli. The authors not only describe modern developments in photomicrography, such as the use of ultra-violet light, modern methods of dark-ground illumination, and the application of the 'motion picture camera' to certain types of microscopic moving subjects, but also they give illustrations that are very little if at all inferior to the original photographs. Examples of the use of the ultra-microscope include pictures of *Pleurosigma angulatum*, collodion and gold films, a partial mirror of gold, normal blood platelets, soap crystals, and the germ of yellow fever. Those taken by means of ultra-violet radiations show remarkably fine definition, bearing in mind how difficult it is to find the focus in this method, and they clearly demonstrate the increased resolving power of the shorter wavelengths. The cinematographic photomicrographs show the gradual development of silver bromide grains, the growth of silver sulphide specks on the surface of fused silver bromide, the absorption of water by a crystal of salt in butter, and the formation of colloidal bismuth and its subsequent coagulation. These and several other photomicrographs, of both high and low power, were supplied by experts in the various branches of work represented.

*God is Love. Can this be True? An Old Man's Meditations.* By Dr. James M. Wilson. (Affirmations: God in the Modern World.) Pp. 31. (London: Ernest Benn, Ltd., 1928.) 1s. net.

RELIGION is closely concerned not merely with the problem of the existence of God, but also with the even more pressing problem of His character. God might exist, and yet not be the kind of being man could worship. Canon Wilson clearly realises that the God of biological science scarcely resembles the God of Love whom we read of in the New Testament. How are we to reconcile these opposites?

Canon Wilson's method is to evacuate his God of transcendence and personality, and to present Him as purely immanent Spirit, in the conscious possession of which Spirit men may find sonship with God. This solution, while emphasising the, to religion, indispensable consciousness of union with God, has its dangers too. Indeed, what solution has not? If we divest God of transcendence and personality, the God of biology may wear a more tolerable aspect, since the sufferings He imposes are His own, and since (if He is impersonal) He does not really know what He is doing. But what we gain in one way, we lose in another; for the God of religion, divested of transcendence and personality, seems no longer worshipful. Personality is a supreme value, and whatever falls short of it seems unworthy of worship. As for the immanent God, the God within us, if we begin by worshipping *Him*, shall we not end by worshipping ourselves?

We may, however, be grateful to Canon Wilson for approaching this most difficult subject in a spirit of candour and deep religious faith.

J. C. HARDWICK.

*Archimedes: or The Future of Physics.* By L. L. Whyte. (To-day and To-morrow Series.) Pp. 96. (London: Kegan Paul and Co., Ltd.; New York: E. P. Dutton and Co., n.d.) 2s. 6d. net.

THIS little book appears at an opportune moment. It is generally acknowledged that the accepted principles of theoretical mechanics break down at the boundary of the atom, and some new system will have to be devised which will make the internal structure of atoms amenable to mathematical treatment. The main issue of the crisis is the subject of the controversy between Einstein and Eddington on one hand and Bergson and Whitehead on the other. The author tries to fathom the meaning of this modern duel and to forecast the manner in which it will be eventually settled. He directs attention to the fact that the laws formulated by Einstein deal with reversible phenomena. Real processes in Nature, on the other hand, are irreversible. "It may be that the reason why we cannot interpret atomic behaviour in terms of particle motions is that electrical and radiational processes are essentially irreversible. Particle motion and wave propagation—the two ideas on which all modern theories of matter are based—are both represented by mathematical expressions which are essentially reversible, since time enters only through the square of 'dt'. If the quantum processes should prove irreversible, we have already found a reason why the old conceptions of particles and waves must be inadequate."

The author draws a suggestive analogy between radiation and life processes, both of which are essentially irreversible.

*La géométrie non euclidienne.* Par Prof. P. Barbin. Troisième édition suivie de notes sur la géométrie non euclidienne dans ses rapports avec la physique mathématique, par Prof. A. Buhl. (Collection Scientia, No. 15.) Pp. 176 + 7 planches. (Paris: Gauthier-Villars et Cie, 1928.) 15 francs.

AN interesting and brightly written introduction to non-Euclidean geometry, with an appendix of notes dealing with its relations to the theory of relativity. There are plenty of references and several plates, including portraits of the heroes of the subject, Bolyai, Lobatschewsky, Riemann, and a fascinating picture of Beltrami's pseudosphere. It is an extremely good half-crown's worth.

*Les bases de la géométrie et de la physique: l'invariance de l'espace euclidien.* Par Clément Laurès. Pp. iii + 125. (Paris: Albert Blanchard, 1928.) 15 francs.

THE author claims to have proved Euclid's postulate of parallels and to have pointed out the errors and contradictions of Lobatschewsky. The book is an attack on non-Euclidean geometry and the theory of relativity, which M. Laurès describes respectively as "une des plus stupides inventions du XIX<sup>e</sup> siècle," and "une autre stupidité, fille aînée de la première."