

scarcely reaches deep enough into religious experience. Among leading scientists to-day I think about half assert that the aether exists and the other half deny its existence; but as a matter of fact both parties mean exactly the same thing and are divided only by words." He points out that the crucial point for us is not a conviction of the *existence*, but a conviction of the *revelation*, of a supreme god. It is, if we may venture to say so, only very rarely that a man of science so well understands the true nature of the religious problem. Also, Prof. Eddington has no sympathy with any attempts "to base religion on scientific discovery" which the scientifically nebulous and the religiously fantastic have sometimes made. He knows how much to expect from science, namely, what it can tell us and what it cannot. The methods of physical science do not lead us to anything which can serve as a basis for religious experience, but only to "a shadow world of symbols". For that necessary basis we must return to our starting-point in human consciousness, the only point where we have direct and first-hand knowledge of reality.

(2) It is interesting that Mr. C. E. M. Joad, who writes rather from the point of view of biology than of physics, says much the same thing. He, too, looks to our inner conscious life for the key to the nature of things; yet even this knowledge eludes us, or at least resists description. "Life as we experience it is indescribable: knowing what it is like to be alive, we cannot yet say; we can say what life does, but not what it is." Yet life is purposive, and has now reached a point when its control over matter is almost complete; so much so that our interest in matter will tend to decrease—"having emancipated itself from the need to know matter, life's attention comes to be centred directly and continuously upon the world of value". This book is full of most interesting ideas and suggestions.

J. C. H.

*Perfumes, Cosmetics, and Soaps: with special reference to Synthetics.* By William A. Poucher. Vol. 2: Being a Treatise on Practical Perfumery. Third edition. Pp. xiv + 521 + 45 plates. (London: Chapman and Hall, Ltd., 1929.) 25s. net.

THE first chapter of the new and enlarged edition contains a short historical survey of the subject, accompanied by some excellent illustrations of kohl pots and other adjuncts of the perfumer in use among the ancient Egyptians, Greeks, and Romans. A general account of the occurrence and separation of plant perfumes is followed by chapters on flower absolutes, the classification of odours, and fixation. A main feature of the book is provided by a series of some two dozen short monographs on flower perfumes: each of these contains notes on history, varieties, odour, natural perfume, chemistry, compounding, and synthetic components. Formulæ and recipes are given for a large number of miscellaneous fancy perfumes and toilet waters, and there are also informative sections on soap perfumery, tobacco flavours, floral cachous, etc. In the second part of the work the subject of cosmetics is treated in similar detail.

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Mr. Poucher's book has been well planned and executed, and it will be helpful to all who are concerned with the industrial, scientific, or historical aspects of the important subject with which he deals. The general production is excellent, and the sixty-six illustrations cover a wide range of cultivated plants and technical processes and apparatus. As an example of the simple faith of our forefathers, we cannot refrain in conclusion from quoting a quaint letter written by the third Earl of Pembroke, Lord Chamberlain, to the Sheriff of Staffordshire:

"Sir, His Majesty, taking notice that the burning of Ferne doth draw down rain, and being desirous that the country and himself may enjoy fair weather as long as he remains in these parts, His Majesty has commanded me to write to you to cause all burning of Ferne to be forborne until His Majesty be past the country." J. R.

*Lichtelektrische Erscheinungen.* Von Prof. Bernhard Gudden. (Struktur der Materie in Einzeldarstellungen, herausgegeben von M. Born und J. Franck, Band 8.) Pp. ix + 325. (Berlin: Julius Springer, 1928.) 24 gold marks.

THE subject of photoelectricity has of late become of primary importance in physical theory. The present book is a laudable attempt to survey the whole of the complex phenomena included in that title. The author divides the phenomena into external ones, where electrons are projected outside the substance, and internal ones, where the photo-effect is confined to the interior of the substance. The former class is most familiar to physicists, and has been greatly cleared up by the verification of Einstein's quantum theory of photoelectric action. The author refers to Elster and Geitel's success in discovering single quanta by photoelectric action, and adds, "this attains the sensitiveness of the human eye". He should have said "greatly exceeds", since the human eye requires at least 200 quanta per second to perceive light.

The internal photoelectric effect is dealt with mainly from the point of view of crystals, on which the author himself has done valuable work. The chapter on selenium is a short one of fifteen pages, and is somewhat disappointing. It is practically taken from Ries's "Das Selen", published in 1918, and omits much recent work which has cleared up several obscurities. The work concludes with a brief account of certain phenomena as yet imperfectly linked up with photoelectricity, such as the Becquerel and Weigert effects.

*Études sur les mouches parasites.* Tome 1: *Conopides, Etrides et Calliphorines de l'Europe occidentale; recherches sur la morphologie et la distribution géographique des Diptères à larves parasites.* Par E. Séguy. (Encyclopédie entomologique, Tome 9.) Pp. 251. (Paris: Paul Lechevalier, 1928.) 65 francs.

THIS memoir is divided into two sections. The first section is devoted to a systematic account of the species of Conopidæ found in western Europe. The second section is of a more general character