who was spirit and not matter, and stood at the head of a hierarchy of spiritual essences. This conception seems to have been enough for the Christian fathers. Yet it is surprising that they should have embraced it so readily. Aristotle's cosmology is one of great clumsiness; he announces six different kinds of being as the constituents of his universe, the prime mover, intelligencies actuated by love of him fifty-five in number, the soul of the first heaven, the souls of the fifty-five spheres, the first heaven, and the fifty-five spheres, and he makes no effort to resolve this somewhat grotesque plurality. Furthermore, Aristotle's prime mover was not the creator of the universe, since matter is eternal, nor is he a personal God feeling interests outside his own concerns, nor is he a God of love, since to entertain emotion would be to interrupt contemplation. Contemplation is, indeed, the one pursuit of the prime mover, the objects upon which his intellect is directed being geometrical problems.

In this, and indeed in other respects, Aristotle's prime mover is more like the ancients in the last play of the "Back to Methuselah" Pentateuch than the God of any known religion. They, too, are engaged in the study of mathematics; their creator shares Aristotle's distrust of emotion and his respect for intellectual activity as the end and purpose of existence.

C. E. M. JOAD.

Our Bookshelf.

Allen's Commercial Organic Analysis. Vol. 3: Hydrocarbons, Bitumens, Naphthalene and its Derivatives, Anthracene and its Associates, Phenols, Aromatic Acids, Gallic Acid and its Allies, Phthalic Acid and the Phthaleins, Modern Explosives. Fifth edition, revised and in part rewritten. Edited by Samuel S. Sadtler, Dr. Elbert C. Lathrop, and C. Ainsworth Mitchell. Pp. ix + 732. (London: J. and A. Churchill, 1925.) 30*s.* net.

THIS new volume, while showing many changes in the personnel of the contributors, and some increase in size, very closely follows the ground covered by the corresponding volume in the previous edition published fifteen years ago. The only definite change would appear to be the separation of the text on benzol with its derivatives from bitumens, so that it may be included later with dye-intermediates. With the extra space available, many of the more recent developments in analytical chemistry have received consideration. The newer indicators for hydrogen-ion control and the comparative testing of antiseptics, to mention but two subjects, have received special attention.

In spite of the fact that a large number of slips appear to have escaped the proof-reader, especially among the chemical formulæ (*e.g.* copper sulphate, p. 150, trinitroresorcinol, p. 337, and cellulose trinitrate, p. 598), the very high standard of the fourth edition has been maintained and all the sections have been brought up-to-date.

In the examination of tars, pitches, and oils, American standard methods have been followed. A good account is given of the testing of natural gas in the bitumens section, but in the detailed description of the Orsat-Burrell apparatus the figure appears to have been omitted. The fact that the testing of salicylic acid is given thirty pages and saccharin twenty pages, to take only two examples, gives some idea of the thoroughness with which this standard work is compiled. The explosives section has been doubled in size since the last edition. A big portion of the increase, however, is due to the inclusion of long extracts from the First Report of the Home Office Departmental Committee on the Heat Test (1914). The curious diagrams of this report, with dimensions inserted on simple apparatus to the third and fourth decimal point, are also reproduced. The reference to Silberrad Ablett and Merryman (p. 613) for the estimation of nitroglycerin in cordite, although similarly given in some other text-books, is incorrect; it should read Silberrad, Phillips, and Merriman. The poor reproduction of Will's apparatus (p. 704) makes the lettered description in the text of little value. It is incorrect to dry tetryl by heating above its melting point (p. 641) before determining this constant. Reference is made in the explosives section to the new gelatinisers and stabilisers, such as diethyldiphenylurea and unsymmetrical diphenylurea, which were largely used in Germany during the War in the manufacture of propellants. No method of testing these products is given, as it is stated that no method has hitherto been published. J. REILLY.

Pathologische Pflanzenanatomie. In ihren Grundzügen dargestellt von Prof. Dr. Ernst Küster. Dritte, neubearbeitete Auflage. Pp. xii + 558. (Jena: Gustav Fischer, 1925.) 24 gold marks.

THE field of pathological plant anatomy is a difficult one to define, and the author has interpreted it in a broad sense. This book, which now appears in a third and enlarged edition, fills much the same place in relation to pathological plant anatomy that Haberlandt's well-known work does to the "physiological anatomy" of normal plant tissues and organs. It is an abundant source of carefully sifted information on the anatomy of pathological growths in their multiform variety. Numerous clear illustrations add greatly to the value of the work.

The special part opens with an account of variegation, which occupies about 40 pages and deals with much of the modern literature of the subject from an anatomical point of view. The second chapter is devoted to etiolation, the effects of the absence particularly of the short rays of the spectrum. Not only the well-known effects on chromatophores and stems are considered, but also the effects of darkness on hair formation, pollen, endodermis, algæ, and fungi. Three other chapters are devoted respectively to intumescences and similar structures involving increase of water content; wound tissues and regeneration; and galls. The last two topics occupy 160 pages and include a consideration of callus, tyloses, wound cork, and gum formation.

The general part is arranged in three sections dealing with the histogenesis, the developmental mechanics and the "ecology" of pathological tissues, making up the greater part of the book. Here the facts are regarded

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