

admirable. It is obvious that a working spectroscopist will require tables of wave-lengths, wave numbers, and terms as well as the best diagrams, and it is much to be hoped that this book will stimulate new editions of the classical tables we have mentioned, extended to cover the same material as Prof. Grotrian's diagrams. The text gives an excellent description of the simpler atomic spectra, their nature, origin, and analysis, in complete detail. There is an especially admirable account of the finer details of the spectra of hydrogen and helium.

R. H. F.

The American Annual of Photography, 1929. Vol. 43. Edited by Frank R. Fraprie and E. J. Wall. Pp. 240 + Adv. 68. (Boston: American Photographic Publishing Co.; London: Sands, Hunter and Co., Ltd., 1928.) 7s. 6d.

THIS long-established annual is no longer just another of the same sort, although it includes a hundred or more pictorial illustrations and about twenty articles on various subjects by about as many different authors. The pictures include a great variety of types of subjects, some excellent portraits and views, and a few that we can only refer to as grotesque. Similarly, the articles range from the severely technical to the highly popular. One of the special features is "Who's Who in Pictorial Photography, 1927-8." This is a list of the contributors to fifty exhibitions practically all over the world, with the number of exhibitions that each has contributed to and his total number of prints hung. It includes similar lists for the two preceding years. As each person's address is given, this unique feature will doubtless be useful to many.

Among the articles that call for special notice is Mr. E. J. Wall's "Practical Digest of the Year's Work in Photography." His recent death reminds us that this is the last time that we shall have the advantage of Mr. Wall's wide knowledge and his ability to set forth the essence of the facts in an interesting and readable form. There is also from his pen an article on the very early history of the daguerreotype process, "prompted by the discovery of an early pamphlet while the library of American Photography was being catalogued." This appears to settle some matters as to priority, etc., that have been in dispute for many years.

The British Journal Photographic Almanac and Photographer's Daily Companion, with which is incorporated The Year Book of Photography and Amateurs' Guide and The Photographic Annual, 1929. Edited by George E. Brown. Pp. 800 + 63 plates. (London: Henry Greenwood and Co., Ltd., 1929.) 2s. net.

THE general appearance and arrangement of this annual are well known. Though not equal in size to the pre-War volumes, it is getting on in that direction. The pictorial section, introduced a year or two ago, is growing, and the photogravure reproductions are of the usual high quality. In turning over the pages there are two matters that

force themselves upon one's attention in connexion with the progress of photography: First, the large number of firms that make apparatus for general cinematography, cameras, projectors, and supplementary items, and the large range of prices charged for them, from £5 up to £250; secondly, that although plates and films are more sensitive than ever before, lenses are being made with larger and still larger apertures, even up to $f/1.5$. The trend, therefore, continues to be in the direction of shorter exposures, and the results that were surprising a few years ago have become commonplace.

The contribution of the editor is on photography in connexion with crime and the criminal, and is illustrated with several interesting examples, many of which are of foreign origin. The technical and historical details are arranged in the same way as heretofore, and include a list of tables in past "Almanacs" that are not included in the present volume, with the dates when they last appeared.

Soviet Union Year-Book, 1928. Compiled and edited by A. A. Santalov and Dr. Louis Segal. Pp. xxxi + 587. (London: George Allen and Unwin, Ltd., 1928.) 7s. 6d. net.

THIS year-book, now in its fourth year of publication, is much enlarged, though planned on the same lines as previously. It opens with the constitution and foreign relations, and gives in full various decrees of the Soviet government. The greater part of the book is devoted to the agriculture, mineral resources, foreign trade, and finance of the Union. The section on foreign trade has been much expanded and now gives full details of imports from and exports to various countries. These figures should prove useful, since they are not easily obtainable elsewhere. Under the heading of education it is noted that the Soviet Union claims to have 6122 technical schools, 124 universities, and 109 workers' faculties. There is also a long list of scientific institutes, the function of which is to assist in the industrial development of the country. Two maps show mineral resources, and two others show the political divisions of the Union. The list of books is almost entirely confined to publications in Russian.

Some Fundamental Problems of Cellular Physiology.

By W. J. V. Osterhout. (The Third William Thompson Sedgwick Memorial Lecture. Published under the Auspices of the Yale School of Medicine on the Foundation established in Memory of Dr. William Chauncey Williams, of the Class of 1822, Yale Medical School, and of Dr. William Cook Williams, of the Class of 1850, Yale Medical School.) Pp. vi + 55. (New Haven, Conn.: Yale University Press; London: Oxford University Press, 1927.) 4s. 6d. net.

In this Sedgwick memorial lecture the author deals with the mechanism of certain fundamental activities of the cell, especially those depending upon the existence of semi-permeable surfaces in the living state.