

(of the Siedentopf type) acts. Although a good plate (XIII, facing page 154) is given of spectra photographed by Gerlach and Schweitzer for deducing the composition of a mixture of tin and a small percentage of cadmium, no reference is made in the text to the diagram or to the fundamental principle underlying photographic spectrophotometry. There is a good section on autochrome photography but no account of ordinary photographic processes, or of the density curves of photographic plates. There is an interesting laboratory experiment devised by Dr. Grimsehl himself to explain the formation of rainbows.

Some of the less well-known effects of light are conveniently enumerated, such as the Weigert effect (action of polarised light on exposed photographic paper).

This volume, which has been translated by Winifred M. Deans, will be useful both as a textbook and as a reference book for those acquainted with only the elements of the subject. No doubt the last volume of the series (on atomic physics) will supplement the section dealing with spectral lines, so that the five volumes will constitute a complete elementary course in physics.

H. L. B.

### Short Notices

*Dipole Moments: a General Discussion.* (Reprinted from the *Transactions of the Faraday Society*.) Pp. iv + 677-904 + lxxxvi. (London and Edinburgh: Gurney and Jackson, 1934.) 21s. net.

This reprint contains the account of the proceedings of the General Discussion held in April (see *NATURE*, 134, 802, May 26, 1934) together with an appendix consisting of a table of values of dipole moments for which Dr. N. V. Sidgwick and two collaborators are responsible. This appendix is a most valuable part of the report, since it contains not only the numerical values of the moments of a large number of substances, but also references to the original publications and such information as may be required in the interpretation of the data. The discussion dealt with the dielectric constant, the determination of dipole moments and the interpretation of dipole moments, and the papers contributed and the discussions on them are now available. The volume is one of considerable interest and value, and the Faraday Society is to be congratulated both on the success of the meeting at Oxford and also on the very material addition to knowledge which is represented by this volume. The type of binding of the reports has been improved.

*The Surgery of the Sympathetic Nervous System.* By Prof. George E. Gask and J. Paterson Ross. Pp. xii + 163 + 13 plates. (London: Baillière, Tindall and Cox, 1934.) 16s.

THE surgery of the sympathetic nervous system is yet in its infancy. Our knowledge of this system itself is none too well developed, so that its surgery must of necessity remain in the experimental stage until our knowledge of the pathology is sounder.

The authors give us the results of their work in the surgical unit at St. Bartholomew's Hospital. The main body of the work is divided up into three divisions dealing with sympathectomy for disorders of (a) the circulation, (b) the visceral motor mechanism and for the relief of pain. Their results in some types of case which have been regarded as more or less intractable to treatment are surprisingly good, and we hope that the work, when fully developed, will yield results of even startling character.

*Bilder zur qualitativen Mikroanalyse anorganischer Stoffe.* Zusammengestellt von Prof. W. Geilmann. Pp. 12 + 40 plates. (Leipzig: Leopold Voss, 1934.) 8 gold marks.

This collection of 240 photomicrographs in 40 plates illustrates the forms of the particles of precipitates produced by analytical reagents. The reproductions are exceptionally good, and the forms of the crystals, the degrees of magnification and the conditions of precipitation are given, so that the results are free from ambiguity. The photomicrographic procedure is also briefly described.

Although the utility of microanalytical methods in a large field has undoubtedly been over-estimated by enthusiasts, they can play a very useful rôle in the confirmation of ordinary qualitative analysis in normal cases, and in cases where only a small quantity of material is available they become of increasing importance. Prof. Geilmann's book is very handy in size and contains practically all the cases met with in normal practice, so that it may be recommended as likely to find favour in analytical laboratories. It is convenient in size, as compared with some earlier publications in atlas-format, and will meet the requirements of all except the specialist in this field.

*Materiewellen und Quantenmechanik: eine Einführung auf Grund der Theorien von de Broglie, Schrödinger, Heisenberg und Dirac.* Von Prof. Dr. Arthur Haas. Vierte und Fünfte, verbesserte und abermals wesentlich vermehrte Auflage. Pp. viii + 299. (Leipzig: Akademische Verlagsgesellschaft m.b.H., 1934.) 7.80 gold marks.

THE first German edition of this work and its English translation were reviewed in *NATURE* of March 9, 1929 (p. 362). Since that time it has been more than doubled in thickness by the addition of chapters on parahydrogen, Dirac's theory of the electron, the positron and applications of the Fermi statistics to metallic electrons. As before, stress is laid upon fundamental principles rather than detailed mathematical proofs, for which the reader is referred to the original sources, so that the book will appeal to anyone who desires an up-to-date and, within limits, a readable account of recent work in atomic physics.