the variation of the position of absorption bands which is likely to be produced by association of solvent with solute. Due recognition is given to the importance of the work now being carried out by Purvis on the selective absorption of substances in the state of vapour, in which case the influence of solvent is quite eliminated.

Considerable interest attaches to the attempted physical explanation of selective absorption, and use is made of the mass of experimental material accumulated by Hartley, Baly, and others. Baly's idea of "isorropesis" does not commend itself to the author, who is in favour of an electronic theory.

As may be expected in a book written in the Leipzig laboratory, much attention is given to the quinonoid rearrangement frequently assumed when a change in colour accompanies salt formation. One might gather from this portion of the work that "chinoide Umlagerung" was specially associated with Leipzig; *e.g.* on p. 169 one finds regarding phenolphthalein :—

"Der Beweis, dass den Salzen chinoide Konstitution zukommt, beruht auf der Existenz zweier verschiedener Äther. Neben dem farblosen laktoiden Dimethyläther existiert ein roter chinoider Äther, der zuerst von Green und King dargestellt und eingehend auch von K. H. Meyer und Hantzsch, untersucht wurde."

One would scarcely realise the great importance of Prof. Green's work on the phthaleins by reading this passage; and it may be pointed out (see pp. 176–7) that the hydroxy- and amino-azo-compounds have engaged the attention of several workers.

The colours of complex salts introduces some inorganic chemistry, whilst in the last few pages—devoted to method—spectroscopes, spectrographs, &c., are described, and an outline of the manner of working with these instruments is given. J. T. H.

THE NON-METALLIC MINERALS OF ECONOMIC VALUE.

Die wichtigsten Lagerstätten der Nicht-Erze. By Dr. O. Stutzer. Erster Teil, Graphit, Diamant, Schwefel, Phosphat. Pp. xv+474. (Berlin: Gebrüder Borntraeger, 1911.) Price 16 marks.

THIS work is designed to supplement the treatise of Prof. Beck on "Mineral Veins and their Contents," by giving an account of the deposits of those useful mineral substances which are not classed as "ores." The first volume, now published, is evidently the fruit of a vast amount of labour and bibliographical research, and deals only with four classes of materials, to each of which the amount of space devoted is as follows—graphite, 88 pages; diamonds, 94 pages; sulphur, 81 pages; and phosphates, 198 pages. In the case of each of these materials, the author, after preliminary notices of its mineralogical characters and modes of occurrence, proceeds to compile from the most varied sources descriptions of each of the districts in which it occurs. These descriptions are illustrated by page blocks (of which there are no fewer than 108 in the volume) giving sketch maps, sections, drawings, and photographs. Very miscellaneous information is supplied in these accounts of localities, including statistics of annual yield with prices and total values, and even, in some cases, examples of forms of agreement between sellers and buyers. In the case of the South African diamond fields, however, these statistics are, unfortunately, not brought down to later date than the year 1908.

As a rule, the references to authorities are ample and satisfactory, but we notice some marked exceptions. The author's acquaintance with British scientific literature would appear to be much more limited than his knowledge of German, American, and even Japanese sources of information. Thus a section of the Upware phosphatic beds is stated to be "after W. Keeping-Penrose," and the puzzled English reader is left to find out that the information about British deposits is obtained, at second hand, from a Bulletin of the United States Geological Survey, written by Mr. R. A. F. Penrose, jun., in 1888! We are reminded of the ingenuous remark of a compatriot of the author, who, when it was pointed out to him that a research he had published had been long before anticipated in this country, said, "Ah, that was buried in the catacombs of the Royal Society's Transactions!" In like manner, we find that Mr. Teall's interesting account of the phosphatised trachyte of Clipperton Atoll, published in the Quarterly Journal of the Geological Society in 1898, is ignored, while many less interesting deposits in the Pacific are fully described.

After the discussions of the distribution and statistics of the materials in the various districts, the author proceeds to consider such general questions as their origin, artificial formation, and metamorphoses. The treatment of these more purely scientific problems, however, is quite subordinate to that of economic and statistical questions, and little of novelty or special interest is to be found in these sections of the book.

An exception to this may, perhaps, be found in the useful abstract, on pp. 254 to 262, of the views that have been put forward concerning the origin of beds of sulphur, including the possible production of some of these deposits through the agency of bacteria, like Beggiatoa and Chromatium. On the whole, however, the work is to be commended for its technological rather than its scientific value.

ELECTRICITY AND MAGNETISM.

(1) *Beispiele und Uebungen aus Elektrizität und Magnetismus.* By Prof. R. Weber. Fünfte Auflage. Pp. viii+330. (Leipzig and Berlin: B. G. Teubner, 1910.) Price 4.80 marks.

(2) *Experimentelle Elektrizitätslehre, verbunden mit einer Einführung in die Maxwellsche und die Elektronentheorie der Elektrizität und des Lichts.* By Prof. H. Starke. Zweite Auflage. Pp. xvi+662. (Leipzig and Berlin: B. G. Teubner, 1910.) Price 12 marks.

(1) THIS is a collection of nearly nine hundred examples in electricity and magnetism. They are all numerical in character, and each is completely