thus: its path is the resultant of two forces; (1) the force from which its initial velocity was derived; (2) the force of gravity pulling it towards the sun." When, a little later, we read that plane Cartesian equations "are always in two unknown quantities and of the second degree," and that by introducing a third co-ordinate we can form the equation to a spiral which "will be in three unknown quantities and of the third degree," our respect for his criticism dwindles to vanishing point. The book concludes with an appendix consisting of "a few Lorentz-Einstein equations of transformation." H. D.

Laboratory Physics.

High Vacua. By Dr. G. W. C. Kaye. Pp. xii + 175 + 4 plates. (London: Longmans, Green and Co., Ltd., 1927.) 10*s.* 6*d.* net.

VACUUM technique is becoming as popular a subject as relativity, but it offers less scope for originality of treatment. Dr. Kaye's book, containing his Cantor Lectures, is later than the others, and therefore contains a few things that his predecessors omit; it is shorter, and therefore omits many things that they contain. It seems to be equally accurate; the section on vacuum pumps—not in our opinion the most important aspect of the subject—is especially complete. The question whether it meets any demand not yet adequately met is one for the publishers rather than for the reviewer.

Notes on Practical Physics: for Junior Students. By Prof. C. G. Barkla and Dr. G. A. Carse. Second edition. Pp. xii + 119. (London and Edinburgh: Gurney and Jackson, 1926.) 6*s.* 6*d.* net.

THE second edition of the "Notes on Practical Physics" used by junior students in the University of Edinburgh does not differ greatly from the first. Some experiments have been added in the section on electricity, and corrections have been made. There is an interesting section on treatment of observations and determination of error—a somewhat unusual feature in a book of this standard, but one which is to be welcomed. The tables of physical constants at the end of the volume might well be revised and brought up-to-date.

General Physics for the Laboratory. By Prof. Lloyd W. Taylor, William W. Watson and Prof. Carl E. Howe. Pp. vi + 247. (Boston, New York and London: Ginn and Co., 1926.) 2.40 dollars.

THE feature of this attractive volume which first compels the reader's attention is the excellent series of half-tone illustrations from photographs, showing the apparatus set up, ready for use, including all minor auxiliary instruments. The authors point out that this plan does away with the necessity for a detailed description of the apparatus.

The book forms a text-book of practical physics containing nearly fifty experiments covering a course such as might be followed by a student working for a pass degree in Great Britain. An account of the theory of each experiment is given, and the laboratory instructions are formulated in an unusually specific and detailed way. This method is defended by the authors, who point out that even instructions such as these are not too easily followed by a student entering on an unfamiliar field of manipulation. One question, however, suggests itself: Does the carefully drilled student turned out from a modern highly equipped and carefully organised laboratory possess the initiative and resource of his less fortunate predecessor, who was 'thrown in at the deep end'? Granting the position assumed by the authors, the book is excellent and well planned, containing many novel and ingenious experiments. Special mention may be made of an experiment for finding the acceleration due to gravity by means of a freely falling weight, the position of which is registered on a strip of paper by electric sparks jumping at regular intervals.

The statement on page 211 that the Nicol prism was invented by "the German physicist Nicol" requires correction. William Nicol of Edinburgh, who describes himself as a lecturer on natural philosophy, published a description of his polarising prism in the *Edinburgh New Philosophical Journal* in 1829.

General Inorganic Chemistry.

General Inorganic Chemistry. By Prof. M. Cannon Sneed. Pp. vi + 674. (Boston, New York and London: Ginn and Co., 1926.) 12*s.* net.

THE author has made an excellent attempt to "reach a proper balance between descriptive and theoretical matter" in this work, and although undue prominence is given to the work of the American Chemical Warfare Service, the book provides a good introduction to the subject. The description of the commoner elements, though not overloaded with detail, deals with essential points, and the simple diagrams, especially those of industrial processes, are admirable. Brief accounts are also given of many of the rarer elements. This descriptive work is relieved at intervals by short historical notes, with excellent full-page portraits of outstanding personalities, and by chapters on such topics as electrolytic dissociation, the structure of the atom, thermochemistry, ionic equilibria, colloids, chemistry in living processes, radioactivity, etc. The beginner may be confused by the use of the two units of volume, the cubic centimetre and the millilitre, and by the inaccurate *definition* on p. 125 of atomic weight as the least weight of the element in a molar volume. Nor will he easily grasp the difference between an ordinary current of positive electricity and the current of electrons on p. 642, but on the whole the style is clear.

No misprints have been noted, but there are a few grammatical faults, *e.g.* 'there are a great variety of them' (p. 480). Such words as 'typal,' 'inhomogeneous,' and 'reactant' have an unfamiliar sound. Aluminium and niton have been re-named aluminum and radon, whilst elements