The book under review contains many contributions of high merit, and the general effect is undoubtedly good, though, as usual, there are minor points that evoke criticism. In altering the title of the first chapter by inserting the word 'General' before 'Plant and Machinery,' an attempt has been made to justify the inclusion in this section of information on beet-sugar and artificial silk production and on nitrogen-fixation, topics that are also treated in their appropriate chapters. If this report were labelled 'Chemical Engineering,' and the material of it were supplied by members of the Chemical Engineering Group, its value would be greatly improved, especially if line-diagrams were used to clarify, or obviate, verbal descriptions of plant. Unnecessary errors in spelling and hyphenation are less numerous than in previous reports, but the inclusion of such eccentricities as 'steam-line filter' (p. 12), 'electroultrafiltration' (p. 18), 'Pittsburg' for Pittsburgh (p. 14), and 'Haüsser' for Häusser (p. 189) show the need of better editorial supervision. The opinion (p. 87) that synthetic methyl alcohol "will solve the motor spirit from coal problem" appears to betray ignorance of the fact that methyl alcohol is a very poor motor-fuel; and the following statement (p. 59) bears witness to confusion of thought and style: "The decrease in the amount of tar now being distilled in the country may be gathered from the fact that the 1923 and 1924 quantities were approximately 326 and 353 million gallons respectively." In conclusion, we suggest that each volume should contain a list of the errors in its predecessor, and also the full titles of many, if not all, of the technical journals referred to in the text. How many chemists, for example, could decipher the abbreviations: S. & I. P., R., and J. Inf. Dis.?

Le magnétisme. Par Prof. Pierre Weiss et Gabriel Foex. (Collection Armand Colin: Section de physique, No. 71.) Pp. viii+215. (Paris: Armand Colin, 1926.) 8·40 francs.

ALL who are interested in the important subject of magnetism must feel that they owe a debt of gratitude to the authors of this little book. They are both distinguished for the researches which they have carried out on the subject, and as their work shows, combine skill in exposition with the imaginative faculty which belongs to the successful investigator. In this volume they have aimed at putting the reader in touch with recent researches which for the most part are to be found only in the original memoirs. Consequently they have confined themselves to a rapid summary of the definitions and fundamental laws of magnetism, though even here the careful reader will find much to repay study. Questions, such as the experimental technique and industrial applications, which have been discussed in previous works, have been left on one side.

To present the results of research in a coherent form is no easy task when they cover such a wide domain, but the authors have been successful in a high degree, and have shown how the experiments are to be interpreted by means of thermodynamics, statistical mechanics, and the anisotropy of crystals. A study of the magnetic properties of matter leads inevitably to the problem of the constitution of the atom, and thus is related to the most fundamental questions of present-day physics. To a certain extent the phenomena of magnetism are in good agreement with the atomic models which are demanded by the facts of radio-activity and radiation, but there are still unsolved problems. The theory of quanta leads to an elementary magnetic moment which is almost exactly five times the magneton deduced by Weiss from the experimental results. As the volume under notice bears the date 1926, we might have expected some account of the recent work of Sommerfeld and others, which serves to throw some light on the discrepancy. The final chapter does, however, contain a description of the quantisation of orbits in three dimensions and the confirmatory experiments of Gerlach and Stern. Though most students of physics are able to read scientific works in French, an English translation, if accompanied by some additional matter, would probably be welcome.

Kalkfrage, Bodenreaktion und Pflanzenwachstum. Von O. Arrhenius. Pp. vii+148. (Leipzig: Akademische Verlagsgesellschaft m.b.H., 1926.) 8 gold marks.

A LIST of those who have set forth their views on some aspect or other of the reaction between lime and soil would be an almost complete list of the world's soil chemists. It is not only—perhaps not chiefly—because of the economic importance of the liming of soils that so much scientific work and thought have been given to the matter. Economic considerations undoubtedly brought about the inception of the work (and still remain in some quarters the diplomatic excuse for its pursuit), but the enormous development of the work is in large measure the result of the sheer fascination of an elusive problem, which seems to be more complicated with each step taken towards its solution.

In his survey of the problem, Dr. Arrhenius gives a brief and somewhat critical review of the opinions held by soil chemists and ecologists on the relation between plant growth and soil acidity, and of the multiplicity of experimental methods which have been invoked in the study of the subject. We recognise the difficulty of giving an account of a subject with so many aspects, particularly when there is great divergence of opinion about the relative significance of those aspects, but it is not easy to understand the omission from the book of an account of the work of Hissink and of Gedroiz on the relation of exchangeable calcium in the soil to the liming problem. The conceptions which have arisen from this work are well known to be playing a prominent part both in the scientific study of the liming question and in the solution of economic problems of farming. It is to be hoped that in a future edition some account of this aspect of the work will be given and the appropriate additions made to the otherwise valuable and extensive bibliography.

A feature of the book is a concise account of the work—to which the author has himself made important contributions—of the observed relation between the weight of crop and the hydrogen ion concentration of the soil. Not all soil chemists and ecologists are able to agree with Dr. Arrhenius about the significance of this work and the validity of the conclusions drawn therefrom, but this account will be valuable both to its exponents and its critics. N. M. COMBER.