mended that "continuous current" and "virtual value" should be used instead of "direct current" and "effective value." The younger generation has simply reversed these decisions. Our sympathies are with the authors who strive to model their nomenclature on the very latest recommendations, and find later that changes have been made. The constant strivings of electrical engineers after standardisation in specifications have done much to stabilise the industry.

The authors in many places where there is doubt give the variants, as, for example, effective virtual and root mean square (R.M.S.), ground and earth, and several other synonyms. They measure both magnetic induction B and magnetic force H in the same unit, namely, the gauss, which is defined to be one line of magnetic flux per square centimetre.

From the teacher's point of view, however, this leads to hopeless difficulties. We can recommend this book to those engineers who have a sound knowledge of theory and want to know the latest practical problems which the engineer has to solve.

Geologic Structures. By Bailey Willis. Pp. xi+295. (New York and London: McGraw-Hill Book Co. Inc., 1923.) 17*s.* 6*d.*

THIS book is essentially different from James Geikie's "Structural and Field Geology," which makes its appeal through its fine presentation of rocks as they actually appear on bare surfaces of the crust. The two works may well stand side by side. Prof. Bailey Willis concerns himself here with the mechanics of rock-displacement and rock-folding, and illustrates these by photographs of his series of models made to illustrate the structure of the Appalachians. He uses mixtures of wax, plaster, and turpentine, producing strata that yield very variously to mechanical stress. The deformation of an incompetent series under load provides material that returns, as it were, into the core of a rising arch formed by competent strata that can lift a load when laterally compressed, or into the core of a syncline when the competent series lies below them and is bent downwards, displacing matter in the depths (p. 148). Hence we have highly crumpled series between strata of more simple curvature. The shearing of materials in sediments as well as in schists, so that new parting-planes are set up, accompanied by thinning and elongation of the mass, is frequently brought before us in this stimulating volume. Moreover, we never lose sight of the tridimensional character of the structures described. There is a valuable chapter on field-methods, in which the author remarks (p. 28) that "the explorer should have the pluck of an American and the self-respect of a Chinese." The book provides geologists with very pleasant reading.

G. A. J. C.

Differential Equations. By Prof. H. B. Phillips. Pp. vi+78. (New York: J. Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1922.) 6*s.* 6*d.* net.

DR. PHILLIPS'S little book is not a treatise on differential equations in the ordinary sense. He does not deal with any but the most elementary equations, and his aim is purely utilitarian, namely, to provide "thorough drill in the solution of problems in which the student sets up and integrates his own differential equation." There are a very large number of problems, with some worked out in the text. The problems are from all branches of applied mathematics, physics, physical chemistry, etc. We can certainly advise students of these subjects to become acquainted with the easier types of differential equations through the agency of Dr. Phillips's attractive and readable book.

A few criticisms of detail may perhaps be allowed. In the example on p. 6 the minus sign should be used *at once* in the form $dR/dt = -kR$, instead of leaving the negative in the form of an incidental result of the calculation. On p. 25 something should be said about the geometrical properties of homogeneous equations of the first order. The definition of phase angle on p. 66 is incorrect. There are also a number of mistakes and misprints. S. B.

An Introduction to the Study of the Compounds of Carbon, or Organic Chemistry. By Ira Remsen. Revised and enlarged with the collaboration of the author by Prof. W. R. Orndorff. (Macmillan's Manuals for Students.) Pp. xii+567. (London: Macmillan and Co., Ltd., 1923.) 10*s.* net.

REMSEN'S text-book has for many years been regarded as perhaps the best introduction to organic chemistry. It is extremely well written and not obscured by tedious details, and is well within the student's capacity. Theory is kept within bounds, and one feels that to the author, at any rate, organic substances are not chalk marks on blackboards. In the new edition the essential character of the book is preserved, but by omitting illustrations and directions for experiments, it has been found possible to bring the text thoroughly up-to-date and to include some rather more advanced material. Very little calling for criticism can be found, but it is suggested that the theory of esterification on p. 67 is unsound, and that ethylene is not most conveniently prepared from the dibromide (p. 276): Newth's method is not even mentioned. Again, on p. 282, some account should have been taken of Chattaway's work. Apart from such trifles, the book is clear, up-to-date, and accurate, as well as readable.

Tracks of British Birds. Edited by H. Mortimer Batten. Life size. Printed on cloth chart, 20 in. by 30 in. (Edinburgh and London: W. and A. K. Johnston, Ltd., 1923.) 4*s.* net.

THIS forms a companion chart to "Tracks of British Animals," already noticed in these columns, and follows the same general lines. Four categories of birds are represented, namely, swamp birds, ground birds, perching birds, and birds of the seashore, each with about ten examples. The tracks are reproduced life-size, and a few brief explanatory notes on the general subject are given at the foot of the chart. Organisations such as Boy Scouts and Girl Guides, in which instruction in the craft of the country side occupies a good deal of attention, will find this chart invaluable, and it will be welcomed by teachers of Nature Study in schools as a most useful aid to the teaching and cultivation of powers of observation. The use of the word mavis as the common name of the song-thrush is, we believe, only general north of the Tweed, and we suggest the addition of the latter name for the benefit of those who are not familiar with the Scotch term.