

Cours de mecanique

Par Henri Beghin. Tome 1. Chapitres 1 à 3. Pp. ix+102. Chapitres 4 à 7. Pp. 103-201. Chapitres 8 à 11. Pp. 202-367. Chapitres 12 à 14. Pp. 368-488. Chapitres 15 à 18. Pp. 489-588+9. (Paris: Gauthier-Villars, 1948.) 1,800 francs.

IN order to avoid the current delays of printing, M. H. Beghin's book has been manifolded from typescript, a process which does not make for elegance; but the merits of the work are not thereby obscured. Based on lectures given at the *École Polytechnique*, the first volume deals with kinematics, with elementary statics, and with dynamics of a particle and of simple rigid bodies, going as far as Lagrange's, Appell's and Hamilton's equations. Vector methods are used when appropriate, but are not overdone.

A preface by General Brisac, commandant of the *École Polytechnique*, claims three points of M. Beghin's work for special praise—its simple presentation of principles, its systematic exposition of mechanics as an experimental science, and its sense of concreteness. The book shares with most other French treatises on rational mechanics a clear and logical view of dynamical principles and a power of simple yet precise exposition. But the contact with reality is a marked feature, and here M. Beghin's account is akin to the best of British text-books; and he is not above including some exercises for the student, though these are often of the type which we in Great Britain should expect to see as worked examples to illustrate the text. Fortunately, he despises the monotony of "A uniform rod of mass m and length $2a$ ", and the majority of his examples are genuinely instructive. The long Chapter 7, "Exercices simples de mecanique terrestre", is full of good sound matter, clearly expressed, and of definite practical importance. Granted the French recognition of the value of pure science to the Fighting Services, it is easy to believe that M. Beghin's courses at the *École Polytechnique* were greatly appreciated.

The second volume is to deal with gyroscopic motion and with the mechanics of fluids and of elastic solids.

The Electrolytic Capacitor

By Alexander M. Georgiev. Pp. xii+191. (New York and Toronto: Murray Hill Books, Inc.; London: Crosby Lockwood and Son, Ltd., 1945.) 15s. net.

IN this age of electronics, we have ceased to marvel at the sight of incredibly complicated circuits being packed into ever smaller and smaller boxes. Few probably pause to consider the great part that has been played by the development of the electrolytic condenser in order to achieve these feats of space compression.

In Mr. A. M. Georgiev's book, all the aspects of electrolytic capacitors are considered, and running right throughout the book there is the comparison of the 'wet' with the 'dry' type of electrolytic condenser. The main theme is of a commercial and engineering nature, and a good deal of space has been devoted not only to the manufacturing processes but also to the details of the electrical equipment necessary for testing and fault-finding. On the other hand, the more academic aspect has not been overlooked, and a whole chapter (5) has been devoted to an outline of the many and various theories and hypotheses that have been advanced in an attempt to explain

this curious dielectric surface of an aluminium anode, which is the starting-point of the whole subject.

There is much information to be obtained from this book, and in addition there is a very extensive bibliography, index, list of relevant patents and glossary (in which many of the terms are quite elementary). As such, this volume will be of much interest not only to qualified chemical engineers, but also to the scientific layman who is interested in the actual manufacture or use of electrolytic condensers.

Introduction to Wireless

By W. E. Pearce. Pp. viii + 247. (London: G. Bell and Sons, Ltd., 1948.) 7s. 6d. net.

THIS book is likely to appeal to the layman who is anxious to know something about how his wireless set works, and who may be expected to have forgotten all he ever knew about elementary electricity and magnetism. This may justify the inclusion of the material in Chapters 2-7. From Chapter 8 onwards the author does deal with radio; but the book is not strictly an "Introduction to Wireless" in the sense that it might form a suitable first-course text-book for serious students. The ground covered is too wide and the treatment too general and not sufficiently rigorous.

As a book for the general reader not concerned with becoming an expert, the book is well written and apparently free from very serious errors, although in places there is some confusion of thought, as on p. 99, for example, where the analogies between potential and kinetic energy on one hand and the energy in the electric and magnetic fields on the other seem to have become slightly mixed.

The author would have been better not to invite the reader to doubt his (the author's) capabilities by describing certain phenomena as "difficult to explain".

The book is well produced, and the text and diagrams are clear and readable. W. R.

Bird Haunts in Northern Britain

By G. K. Yeates. Pp. 175 + 119 plates. (London: Faber and Faber, Ltd., 1948.) 25s. net.

THERE is a special fascination and charm about the birds of the northern parts of the British Isles. The very names, 'whimbrel', 'black-throated diver', 'greenshank', and so on, seem to have a peculiar appeal. In this account of his experiences on the mainland of Scotland and in Shetland, Capt. Yeates conveys this fascination to the reader. He writes of birds and bird matters in a pleasant and informative manner, illustrating his text with many photographs. Bird photographers to-day are legion, and they vary much in skill; but Capt. Yeates is among the leaders in this branch of the photographer's art, and the 115 reproductions in black and white are good examples of his work, all being excellent, and many fine. In addition there are two reproductions in colour from 'Kodachrome' originals and two plates from paintings by Mr. G. E. Lodge. Colour photographs and paintings do not always bear comparison, the work of the brush generally winning from the artistic point of view; but in this case all the pictures are admirable, the 'Kodachrome' reproductions being accurate in colour rendering and at the same time soft and harmonious. As for Mr. George Lodge's pictures, it suffices to say that they are what we have long learnt to expect from this skilled painter of birds, fine colour effects being combined with great accuracy of plumage detail.

FRANCES PITT