

The book is modelled upon the "Fodder-grasses of India," published not long ago, in two volumes, by Mr. Duthie, the director of the botanical department of Northern India, and to Mr. Duthie the author is indebted for the botanical determination of the species. He gives the native name of each plant, and a short account of the extent and manner in which it is used, and as most of them have a wide dispersion, this will be found useful in other dry sub-tropical regions. Out of thirty-seven species, the two great tropical tribes are represented, *Panicææ* by twelve species, and *Andropogoneæ* by ten, and only three species fall under *Festuceæ*, the tribe to which most of our North European pasture grasses belong. The plates are lithographed from photographs, and do not contain any dissections. Plate III., called *Panicum Crusgalli*, is clearly not that species, but a form of *P. colonum*, another variety of which is figured on Plate II. Mr. Coldstream also has got entirely wrong with his two species of *Cyperus*, figured on p. 38. The left-hand figure, called *Cyperus species*, is evidently *Cyperus Iwia*, Linn.; a common weed throughout India in rice-fields. The left-hand figure, labelled *Cyperus Tria*, is not in flower. There is no such plant known to botany; *Tria* is doubtless a mistake for *Iwia*. The figure is quite unrecognizable, but from the native name appended, "Motha," it is most likely *Cyperus rotundus*.

J. G. B.

Elementary Dynamics of Particles and Solids. By W. M. Hicks, M.A., F.R.S. (London: Macmillan and Co., 1890.)

IN this excellent treatise, extending over nearly 400 pages, the author introduces to the student the principles of dynamics. Although the book is issued under the latter title, it will be found to differ considerably in its treatment from the majority of text-books on the same subject. For instance, the two subjects of statics and kinetics have been considered together, the former being regarded as a special case of the latter. Again, the discussion of force is reserved until an attempt has been made to give an idea of mass and its measurement; thus a preliminary study of momentum finds an early place.

Although the mathematical acquirements of the student of these pages may be limited to a knowledge of the elements of algebra and geometry, he will be able to readily follow the methods adopted in establishing the various results. This the author has kept in view throughout his work, except in a few cases where, in the hope of rendering it useful to a larger circle of readers, he has had recourse to the trigonometrical ratios for examples which he has worked out.

The volume is divided into three portions (1) rectilinear motion of a particle; (2) forces in one plane; (3) plane motion of a rigid body.

One cannot read the first few chapters without observing the care taken by the writer in trying to impart to the student a correct and precise idea of the fundamental units. That this is a very important matter all will agree who have had any experience in teaching or testing students. The most deplorable state of ignorance sometimes exhibited by them, in giving their results in all manner of absurd units, should encourage both teacher and author to make a special effort when dealing with the question of units, fundamental or otherwise.

As the subject of statics is included, an opportunity has been taken of introducing the method of drawing stress diagrams for loaded framework; this will be valuable to engineering students.

Notwithstanding that the writer has forbidden himself the use of the integral calculus, he has been able to establish (in some cases very neatly) many useful results in the two chapters on centre of gravity and moment of inertia, which should be read with care.

Neatness in method characterizes the book throughout,

and an unusually large number of examples will be found at the end of each chapter.

The work is based on a series of lectures delivered by the author at the Firth College, Sheffield, and many details for which time can generally be found at the lecture table have in this case found their way into the book.

These will help to lessen the individual difficulties of students, and their views of the subject will be enlarged thereby. There can be little doubt that the text-book will have a deservedly favourable reception.

G. A. B.

Catalogue of the Fossil Reptilia and Amphibia in the British Museum (Natural History). Part III., containing the Order *Chelonina*. By Richard Lydekker, B.A., F.G.S., &c. (London: Printed by Order of the Trustees, 1889.)

MR. LYDEKKER is to be congratulated on having added one more to the valuable series of catalogues of the palæontological collections in the British Museum which he has compiled during the last few years. Like his previous catalogues, the present work indicates an enormous amount of careful and accurate work, which, however, is of such a special kind that it cannot easily be summarized in a short review.

The extreme difficulty of correlating the fossil forms of *Chelonina* with the recent, on account of the fragmentary character of many of the remains, is indicated by the fact that, out of the 52 genera and 131 species or varieties described, the author has only been able to place with certainty 18 genera and 10 species amongst existing forms. The classification adopted is to a great extent that followed by Mr. Boulenger in his catalogue of recent *Chelonians*. The work is illustrated by 53 woodcuts, and abundant references to the bibliography of the group are given. It must be added, as stated in the preface, that "the collection which forms the subject of this Catalogue is particularly rich in *Chelonians* from the Purbeck Beds of Swanage, the Cretaceous of England and Holland, the Eocene Tertiaries of Warwick, Sheppey, Hampshire, the Isle of Wight, and the older Pliocene of the Siwaliks of India." The last-named beds have yielded the largest tortoise known (*Testudo* [*Colossochelys*] *atlas* of Falconer), the carapace of which measures about six feet in length.

LETTERS TO THE EDITOR.

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Systems of "Russian Transliteration."

As one who takes an interest in the Russian tongue, quite apart from the value of the scientific papers published in that language, I may perhaps be allowed to express my regret that the author of "A Uniform System of Russian Transliteration," published in your issue of February 27 (p. 397), has departed in almost every point where it is possible to do so from the system of transliteration which has been in use in England for about a century, and which has, moreover, the advantage of being almost identical with that current in France.

A system of transliteration may be founded on one of two bases—namely, the *empirical*, in which little or no account is taken of the sound of the letters in the foreign language, and the *rational*; in the latter the letters of the foreign language are, where possible, represented by letters or groups of letters which have as nearly as may be the same sound as the original. For instance, Б in Russian would be represented by B in English, these two having the same sound. It seems to me that the latter is the most convenient system, and the one which ought to be