

operation. The work is an important and valuable contribution to the literature of metallurgy.

C. H. D.

Index Zoologicus No. II. Compiled (for the Zoological Society of London) by C. O. Waterhouse and edited by David Sharp, F.R.S. Pp. vi+324. (London: Printed for the Society, 1912.) Price 15s.

THE subtitle of this volume describes its scope; it runs: "An alphabetical list of names of genera and subgenera proposed for use in zoology as recorded in the 'Zoological Record,' vols. 38-47 inclusive (1901-1910), and the zoology volumes of the 'International Catalogue of Scientific Literature,' annual issues 1-10, together with other names not included in previous nomenclators." The first volume was published in 1902, and the primary object of the present work is to serve as an index to the intervening ten years, but it is also planned so as to be with Scudder's "Nomenclator" a complete register of the names of genera and subgenera proposed for use in zoology. The editor of this volume points out that 140,000 names have been, up to the present time, proposed for the genera and subgenera of zoological taxonomy.

Systèmes Cinématiques. By Prof. L. Crelier. Pp. 100. (Paris: Gauthier-Villars, 1911.) 2 francs. (*Scientia*. Janvier, 1911. Phys.-Mathématique. No. 31.)

UNDER the above title, the author investigates the motion of a right-angle one side of which passes through a fixed point, while the vertex describes a fixed right line or circle, that of a rod sliding between axes at right-angles, that of a crank connecting rod, and so forth; altogether, six methods of generation are investigated. The curves associated with these moving systems include the base and rolling centres or loci of the instantaneous centres, the envelope of the moving line and those of other lines associated with it, the trajectories of various points of the figure, and certain envelopes of their tangents. In this way a large number of curves are obtained, possessing interesting properties; of course, many of these are already well known. The figures in the book are rather complicated. The book contains a portrait of Col. Mannheim and a short bibliography.

Internal Secretion and the Ductless Glands. By Prof. Swale Vincent. With a preface by Prof. E. A. Schäfer, F.R.S. Pp. xx+464. (London: Edward Arnold, 1912.) Price 12s. 6d. net.

PROF. SWALE VINCENT is well known as an investigator who has devoted much attention to one of the most interesting chapters of physiology, namely, that which deals with the group of organs, formerly so mysterious, which are known as the ductless glands. The adrenal bodies, the thyroid and parathyroids, the thymus, the pituitary, pineal, carotid, and coccygeal bodies are the principal ones treated, but, as is well known, internal secretions are also formed by glands which possess ducts, and so we also have chapters on the

pancreas, liver, kidney, and reproductive organs. The literature of the subject is enormous, and in presenting a lucid and terse account of the recent progress of science, and in ferreting out the 3000 or more references which deal with it, the author has, as Prof. Schäfer says in his preface, laid us under a deep debt of gratitude. W. D. H.

A Laboratory Manual of Agriculture for Secondary Schools. By Prof. L. E. Call and E. G. Schafer. Pp. xv+344. (New York: The Macmillan Co.; London: Macmillan and Co., Ltd., 1912.) Price 4s. net.

THIS book is issued to supply the demand that has arisen for laboratory exercises in the teaching of agriculture in the United States. Directly agriculture becomes a school subject (and it is for secondary schools that the book is intended), it becomes necessary that the teacher should be provided with a number of simple experiments within the capacity of the scholars and of the school equipment. Of course, the out-door observations must still remain the essential groundwork of the instruction, but a well-chosen course of laboratory experiments can be arranged to bring out the main principles and illustrate the working of the individual factors involved.

The lessons deal with soils, crops and animals. For convenience of working they are arranged in calendar form, beginning in September and continuing through to May, with an "extra" for Arbor Day. They have actually been carried out in schools, so that they are known to be workable.

The soil experiments deal mainly with the moisture relationships, which in Kansas play a large and sometimes a controlling part in soil fertility. The crops studied include the cereals, cowpeas, cloves, lucerne and potatoes: the exercises range over the germination of the seed, the development of the root and seed, and the examination of the harvest. The animal section is based on the score-card method, devised in America and found so useful that it has been introduced into this country.

Teachers of agriculture will find many useful and suggestive lessons in the book, and it will serve as an excellent example of the standard of instruction aimed at in the American schools.

LETTERS TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of NATURE. No notice is taken of anonymous communications.]

An Effect due to the Sudden Great Increase of Pressure.

IN the course of some experiments on the mapping of the lines of electric force between two charged conductors, a remarkable effect, due to the sudden very great rise in pressure in the oil separating them, occurred. The conditions of the experiment necessitated the use of two pointed strips of tinfoil, separated by an interval of 1/16 in., laid on a sheet of glass