

in *Nature* suggested that there might be some difficulty in understanding how a certain rate of change of momentum could produce unit change of momentum per second. It was also suggested that, while we might measure the hunger of a man under various circumstances, by determining the number of pounds of beef he would consume, we should hardly be warranted in saying that hunger "is" a certain number of pounds of beef.

We shall probably continue to measure forces with spring balances. We shall always find that the force applied to a loaded wagon is greater than the change per second in its momentum. Tait's definition might give a zero value when the spring balance might show that the horse was behaving in a very creditable way.

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#### SCIENTIFIC BOOKS

*The Wonders of Animal Ingenuity.* By H. COUPIN, D.Sc., and JOHN LEA, M.A., author of "The Romance of Bird Life." Philadelphia, J. B. Lippincott Company. 1910. Pp. 163.

This is an American reprint of an English book of popular natural history for young people, dealing with the "wonders" of the nest-building instinct in spiders, insects, fishes, birds and mammals. The facts are gathered largely from such authorities as Huber, Moggridge, Fabre and Brehm. They are treated entirely from the traditional point of view with regard to instinct, and despite a warning in the preface against attributing "human motives and reason where they have no existence," the "little architects" are more or less humanized throughout. It would seem that a no less popularly interesting book could now be written from the more modern point of view, dwelling on the failures and variability of instinct. However, for young English readers the book would no doubt accomplish the purpose set forth in the preface, of aiding "towards a greater love of animals and a desire to observe and understand their ways." But for the American

<sup>1</sup> *Nature*, XVI., 182, 227.

reader its value is lessened by the fact that so few of the species whose behavior is described are natives of this country. This is especially true in the case of the birds: for instance, when the ovenbird is mentioned it is the South American *Furnarius rufus* that is meant, instead of our own little warbler, the discovery of whose nest is a pleasant achievement for any amateur naturalist.

MARGARET FLOY WASHBURN

*Linseed Oil and other Seed Oils.* An Industrial Manual. By WILLIAM D. ENNIS, M.E., Professor of Mechanical Engineering in the Polytechnic Institute of Brooklyn. 8vo, cloth, pp. 316. Price \$4.00 net. New York, D. Van Nostrand Co. 1909.

This deals minutely with the production of linseed and other expressed oils, particularly cottonseed, sunflower, peanut and rape. A glance at the table of contents shows the wide scope of the book: this is as follows: Introductory, The Handling of Seed and the Disposition of Its Impurities; Grinding; Tempering the Ground Seed and Molding the Press Cake; Pressing and Trimming the Cakes; Hydraulic Operative Equipment; The Treatment of the Oil from the Press to the Consumer; Preparation of the Cake for the Market; Oil Yield and Output; Shrinkage in Production; Cost of Production; Operation and Equipment of Typical Mills; Other Methods of Manufacturing; The Seed Crop; The Seed Trade; Chemical Characteristics of Linseed Oil; Boiled Oil; Refined and Special Oils; The Linseed Oil Market; The Feeding of Oil Cake; Miscellaneous Seed Oils; The Cottonseed Industry.

The chapters on boiled and refined and special oils and the oil market are particularly instructive and valuable. Another chapter deals with the chemical testing of the oil, many of the methods being taken from the bulletins of the U. S. Department of Agriculture, Division of Chemistry. The method for the execution of the Maumené test can not be recommended. It is an open question as to whether chemical tests should be included in a manual of this kind.