SCIENCE

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MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Professor J. McKeen Cattell, Garrison-on-Hudson N. Y.

*TRUTH AND ERROR.**

"IF to do were as easy as to know what were good to do, chapels had been churches, and poor men's cottages princes' palaces. It is a good divine that follows his own instruction. I can easier teach twenty what were good to be done than be one of the twenty to follow mine own teaching."

"Science," says Powell, "deals with realities. These are bodies and their properties. Known realities are those about which mankind have knowledge; scientific research is the endeavor to increase knowledge, and its methods are experience, observation and verification."

While most men of science admit all this as good precept, history warns them that they must be on their guard, lest they fall unknowingly into the dream-land of the 'philosophers;' for our author tells us that "The dream of intellectual intoxication seems to some to be more real and more worthy of the human mind than the simple truths discovered by science."

While rebuking the metaphysicians, our author does not spare those men of science who assert that while science deals with the *properties* of matter the real nature of matter—what it is in itself—is quite unknown: "As though its properties did not constitute its essential nature."

"Would a sane person," he asks, "speak

* By J. W. Powell. Chicago, The Open Court Publishing Co., 1898.

ernment I'm under I object to it!'' This general dissatisfaction with the present order of things is evinced even in the title, where we find taxinomy instead of taxonomy, this latter word being rejected on the ground that its formation is vicious, a view that should meet with the approval of sticklers for nomenclatorial purity.

Nevertheless, four chapters are devoted to as many orders, or categories, of classification, namely, those of resemblance, structure, degree, (*hierarchie*) and phylogeny (*evolution*), all of which are treated as if they were new discoveries. These chapters contain numerous familiar examples of taxonomic methods as well as sundry ingenious diagrams, all very good in their way, but all more or less familiar to everyone who has hat do explain the principles of zoological classification. We are, then, given a discourse on 'the ternary correlation of the four taxonomic orders,' after which M. Durand proceeds to pour the vials of his wrath upon taxonomists and taxonomic systems in general and Haeckel and his genealogical tree in particular. After this we are told that genealogical classification is the only natural method, those founded upon remembrances all being artificial, since they are based upon arbitrarily chosen characters. It is hardly worth while to pursue the subject further, but it may safely be predicted that few will share the author's conviction that his statements are definite and firmly-established facts upon which we may confidently build.

F. A. L.

BOOKS RECEIVED.

Minerva, Jahrbuch der gelehrten Welt. Edited by K. TRÜBNER and F. MENTZ. Strassburg, Karl J. Trübner; New York, Lemcke and Buechner. 1899. Eighth year, 1898–1899. Pp. xxiv+1139.

Transactions of the American Climatological Association for the year 1898. Philadelphia, Printed for the Association. 1898. Pp. xxxiii+243.

The Second Washington Catalogue of Stars, together with the annual results upon which it is based. Prepared under the direction of JOHN R. EASTMAN. Washington, Government Printing Office. 1898. Pp. lxi+287.

The Last Link, Our Present Knowledge of the Descent of Man. ERNST HAECKEL. With notes and biographical sketches by HANS GADOW. London, Adam and Charles Black; New York, The Macmillan Company. 1898. Pp. 158. $1.00.

The Principles of Agriculture. L. H. BAILEY. New York, The Macmillan Company. 1898. Pp. xx+300.

The History of Mankind. FRIEDRICH RATZEL. Translated from the second German edition by A. J. BUTLER. With introduction by E. B. TYLOR. London and New York, The Macmillan Company. 1898. Vol. III. Pp. xiii+599.

SCIENTIFIC JOURNALS AND ARTICLES.

The Journal of Physical Chemistry, November. 'Potassium Chlorid in Aqueous Acetone,' by J. F. Snell; a study of what the author calls, at Professor E. B. Titchener's suggestion, the *dineric* surface for the system potassium chlorid, acetone, and water. 'On the Heat of Solution of Liquid Hydriodic Acid,' by F. G. Cottrell; liquid hydriodic acid proves to be an endothermic compound with reference to gaseous hydrogen and solid iodine, but its heat of decomposition is only a little more than a quarter of that of the acid in the form of gas. 'Note on the Transference Number of Hydrogen,' by Wilder D. Bancroft. 'Alcohol, Water, and Potassium Nitrate,' by Norman Dodge and L. C. Graton; a study of the concentration-curve.

December. 'The Conversion of Ammonium Thiocyanate into Thiourea and of Thiourea into Thiocyanate,' by John Waddell; the conversion of thiocyanate into thiourea takes place very slowly, if at all, below 110°, but above 150° is rapid and equilibrium is reached, whether starting from the thiocyanate or from thiourea, when the product contains a little more than 20 per cent. of thiourea. 'Solution Densities,' by H. T. Barnes and A. P. Scott; a study of the density curves for different concentrations of solutions of zinc, magnesium, cadmium, potassium and sodium sulfates, magnesium, zinc, potassium and sodium nitrates, potassium and sodium chlorids, hydrochloric and sulfuric acids. 'Electromotive Force between Amalgams,' by Hamilton P. Cady.

American Chemical Journal, January. 'Metathetic Relations between certain Salts in Solution in Liquid Ammonia:' By E. C. Franklin and C. A. Kraus. 'Some Properties of Liquid Ammonia:' By E. C. Franklin and C. A. Kraus.