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.

The great similarity of liquid ammonia and water in their dissociating power has led to a thorough study of the properties of liquid ammonia. It was found that in a considerable number of cases the nitrates of the metals were acted upon, when in solution in liquid ammonia, by the ammonium salts and a salt precipitated as a result of the metathetic reactions, if the salt formed was insoluble in ammonia. It was also found that many of the physical constants, which in the case of water are so entirely different from those of all other liquids, are almost as strongly characterized in the case of ammonia as in that of water. 'On the Constitution of the Phenylhydragones:' By P. C. Freer. 'Note on the Action of Liquid Hydriodic Acidon Ethylether:' By F. G. Cottrell and R. R. Rogers. In this case there was a partial conversion of the ether into ethyliodide. 'Contributions to our Knowledge of the Oil of Lemon-Grass:' By W. Stiehl. Isolation of the three aldehydes: Citriodoric aldehyde, Geranial and Allo-lemonal. The *American Chemical Journal* will hereafter appear monthly, and two volumes will be issued yearly. J. Elliott Gilpin.

We have received the first issue of *Science Work, a Monthly Review of Scientific Literature*, edited by Mr. Waller Jeffs and published at Manchester by Messrs. Robert Aiken & Company. It is stated in the introduction that the Journal 'will aim to give a general review of the world of science and present the reader as it were with the cream of the scientific press,' but we fear that it will be difficult to do this within the limits of eight pages published twelve times a year.

Natural Science, now published by Mr. Henry J. Pentland at Edinburgh, and still edited anonymously, but under new auspices, opens with the issue for January its fourteenth volume. The general character of the contents, which has always made *Natural Science* interesting and profitable, is well maintained.

SOCIETIES AND ACADEMIES.

GEOLOGICAL SOCIETY OF WASHINGTON.

At the regular meeting of this Society held in Washington, D. C., January 11, 1899, Mr. Willard D. Johnson, U. S. G. S., read a paper on 'Subsidence Basis of the High Plains,' and Dr. C. Willard Hayes, U. S. G. S., one on the 'Lake Region in Central America.' Dr. Hayes' paper was based upon observations made recently in Central America while working under detail as geologist to the Nicaraguan Canal Commission. Abstracts of both papers follow.

Subsidence Basins of the High Plains.—The Great Plains structural slope has been superficially modified by streams from the Rocky Mountains, in three stages of gradation—a first stage, in which a hard-rock topography was developed by degradation; a second, in which this topography, by aggradation, became buried under an alluvial waste sheet to depths within its valleys as great as 300 feet; the third and present stage, in which the mountain streams are again engaged in cutting and have trenched the aggradation plain with parallel valleys, wide apart. But left thus above grade, this flat surface, in the greater part, has been eroded also by the drainage from its local precipitation. In notable exception is a transverse, mid-slope belt. Here the flat surface suffers no erosion from its local precipitation and has virtually no local drainage. It therefore stands in light relief. Transected by the mountain streams into broad plateaus of faint elevation, it forms a belt of residual tables or upland flats of survival. The Staked Plains plateau, of northwestern Texas, constitutes the best individual example. These are the High Plains—to some extent locally so-called. The Great Plains slope has a graduated climate—from humid to arid, east to west. The High Plains correspond in position to its 'subhumid' belt.

In the arid belt to the westward the vegetation—of grass and brush—grows in tufts. It affords but slight protection against the feeble precipitation, and the surface is conspicuously eroded. Upon the High Plains, within the subhumid belt, however, vegetation is wholly of grass, which forms a universal, close-knit sod. This vegetal cover affords complete protection against the considerable local precipitation. The High Plains are distinctively the 'short-grass country.' As a residual topographic belt, within the climatic belt, they are held by their sod. The local precipitation—so much of it as does not evaporate—is absorbed.