

train" broke up and "was resolved into two parts."

Ephorus may have been right despite the caloric statement of Seneca; for, in our own times, we have witnessed the disruption of Biela's comet and have assurance of the disintegration of scores of others.

One is not surprised to read of nature's abhorrence of a vacuum; but even an ardent admirer of Seneca would hardly expect to find a reference to the doctrine of the conservation of matter (p. 121) or to the effect of forest denudation on the amount of rain-fall and on the character of floods (p. 122).

Though the rotation of the earth upon its axis and its revolution around the sun had been advanced by several Greek astronomers to explain the phenomena of day and night Seneca seems to cling to the old belief of a stationary earth and a revolving starry dome.

The "Quæstiones Naturales" was written in the last year or so of a life that was busy intellectually and troublous politically; for if Nero was a docile student, he showed himself afterward an ungrateful pupil as well as a ruthless tyrant. One may well wonder how Seneca found the time and tranquility needed to add the present scientific treatise to his numerous writings dramatic, philosophical and moralistic.

Throughout these pages, Seneca shows a keen appreciation of the value of observation for the extension of our knowledge of the world around us, and also of the importance of common sense in the interpretation of our observations.

To this translation in fine literary English, Professor Clarke has prefixed a life (54 pages) of the Roman sage, and Sir Archibald Geike, President of the Royal Society, has appended a valuable analysis (23 pages) of each of the seven books. This critical analysis from a master pen gives by itself a good idea of what was known in physical science in the time of the Emperor Nero. BROTHER POTAMIAN

MANHATTAN COLLEGE

Allen's Commercial Organic Analysis. Vol. II., Fixed Oils, Fats, Waxes, etc. Fourth

edition, entirely rewritten. Edited by HENRY LEFFMANN and W. A. DAVIS. Philadelphia, P. Blakiston's Son and Co. 1910. Pp. x + 520. Price \$5.00 Vol. III., Hydrocarbons, Asphalt, Phenols, Aromatic Acids, Modern Explosives. Pp. x + 635. Price \$5.00.

As with the first volume, which was reviewed in SCIENCE a few months ago, these volumes have been so entirely rewritten as to form practically new books. As with that the different chapters have been written by experts in the different fields. In Volume II. the authors are: Fixed Oils, Fats and Waxes, C. Ainsworth Mitchell; Special Characters and Methods (Olive Oil Group, Beeswax, etc.), Leonard Aschbutt; Butter Fat, Cecil Reeves and E. R. Bolton; Lard, C. Ainsworth Mitchell; Linseed Oil, C. A. Klein; Higher Fatty Acids, W. Robertson; Soap, Henry Leffmann; Glycerol, W. A. Davis; Cholesterols, John Addyman Gardner; Wool Fat, Cloth Oils, Augustus H. Gill. In Volume III., Hydrocarbons, F. C. Garrett; Bitumens, S. S. Sadtler; Naphthalene and its Derivatives, W. A. Davis; Anthracene and its Associates, S. S. Sadtler; Phenols, S. S. Sadtler; Aromatic Acids, Edward Horton; Gallic Acid and its Derivatives, W. P. Dreaper; Phthalic Acid and the Phthaleins, W. A. Davis; Modern Explosives, A. Marshall; Table of Comparison for Centigrade and Fahrenheit Degrees.

The methods of analysis for complex mixtures of organic compounds are almost unlimited in their variety and make use of all kinds of physical and chemical properties. A book which brings together the best of these methods and which is filled with copious references to the literature of the subjects considered is indispensable in every laboratory where such products are examined. This revision of Allen's well-known book under the editorship of Leffmann and Davis and with the collaboration of well-selected experts meets this need excellently. W. A. NOYES

SCIENTIFIC JOURNALS AND ARTICLES

Terrestrial Magnetism and Atmospheric Electricity for September contains the follow-