

journal, which is therefore to be regarded, not as an entirely new venture, but as a continuation of the series heretofore known as the Transactions of the Seismological Society. The new journal is issued in the same form and from the same printers as the old Transactions, and the first number, now at hand, bears on its title page Vol. XVII, which is its number in the old series, so that the new volumes can be bound uniformly with those previously issued. The annual subscription is five dollars.

In this number the first article is on 'The Mitigation of Earthquake Effects and Certain Experiments in Earth Physics' by Professor Milne, in which various lines of experiment are proposed that might possibly lead to the prediction of severe earthquakes so as to guard against their effects. In the second, 'On the Application of Photography to Seismology and Volcanic Phenomena,' Professor W. K. Burton describes with illustrations the photographic records from Milne's tremor indicators. In the third Professor Milne gives an abstract of the "Seismometrical Observations for the Year 1890," from which it appears that in that year 845 earthquakes were felt in Japan, of which 49 were classed as severe, 264 as moderate and 532 as feeble. Of the severe earthquakes, four (Jan. 7, Mar. 19, Apr. 16, Nov. 17) were accorded more detailed description. In the fourth article "On the Overturning and Fracturing of Brick and other Columns, by Horizontally Applied Motion," Professor Milne and F. Omori describe a very interesting series of experiments, wherein various objects such as blocks of wood of different dimensions, bricks, columns built of brick or of cement, were mounted on a wheeled truck to which a reciprocating horizontal motion could be communicated, and the circumstances of the motion, with the overturning or fracture of the object, were electrically recorded. From the data the maximum velocity and maximum acceleration necessary for overturning were calculated and compared with the experimental results with a fairly good agreement. In an article on "Earth Pulsations in Regard to Certain Natural Phenomena and Physical Investigations," Professor Milne concludes that "the movements called earth tremors are move-

ments in the crust of the earth not altogether unlike the swell upon the ocean," and infers a connection between them and the steepness of the barometric gradient. In an article "On the Movements of Horizontal Pendulums," he gives an abstract with notes of certain observations made by Dr. E. von Rebeur-Paschwitz at Potsdam, Wilhelmshaven and Teneriffe, and published in the *Astronomische Nachrichten*. F. Omori gives "A Note on Old Chinese Earthquakes," and as the concluding article Professor Milne gives a twenty-page "Note on the Great Earthquake of October 28, 1891," the phenomena of which are further discussed in his report to the British Association, 1892, and the complete account of which is to be issued under the auspices of the Imperial University of Japan, but is not yet ready for publication. According to the statements of this account the killed numbered 9,960, wounded 19,994, and houses totally destroyed 128,750. The immediate cause of the disaster was the formation of a fault which can be traced on the surface of the earth for a distance of between forty and fifty miles, and shows a difference of level amounting in many places to twenty or thirty feet. There is also abundant evidence of horizontal displacements, sometimes as great as eighteen feet, and the whole Neo Valley appears to have suffered a permanent compression, becoming narrower, the piers of bridges being left closer together than before the earthquake. There were also many observations of surface waves in the earth, involving a perceptible tilting of objects resting upon it; and the maximum horizontal motion indicated by the instruments was from 25 mm. to 35 mm. with a period of from 1 to 2.5 seconds.

Notions de Chimie Agricole. Par TH. SCHLOESING, FILS. Paris, Gauthier-Villars et fils. Quai des Grands-Augustins, 55. 208 p. 8°. Broché, 2 fr 50. Cartonné, 3 fr.

FOLLOWING in the footsteps of the elder Schloesing, M. Th. Schloesing, Fils, Ingenieur des Manufactures de l'Etat, presents us with an admirable treatise on agricultural chemistry covering in detail the physical and chemical relations of soil and atmosphere

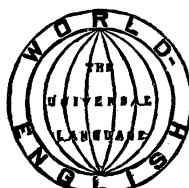
Reading Matter Notices.

Ripans Tabules: for torpid liver.
Ripans Tabules banish pain.

BACK NUMBERS and complete sets of leading Magazines. *Rates low.* AM. MAG. EXCHANGE. Schoharie, N. Y.

RESTORE YOUR EYESIGHT

Cataracts, scars or films can be absorbed and paralyzed nerves restored, **without the knife or risk.** Diseased eyes or lids can be cured by our **home treatment.** "We prove it," **Hundreds convinced.** Our illustrated pamphlet, "Home Treatment for Eyes," free. Don't miss it. Everybody wants it. "THE EYE," Glens Falls, N.Y.



WORLD-ENGLISH.

25 Cents.

**HANDBOOK OF
WORLD-ENGLISH.**

25 Cents.

Ex-President Andrew D. White, of Cornell University, says: "I believe that the highest interests of Christian civilization and of humanity would be served by its adoption."

"So set down, our tongue is the best for the world to unite upon."—*Brooklyn Eagle*.

"The idea of Mr. Bell has much to recommend it, and the presentation is charmingly clear."—*American*, Phila.

"The result is a language which cannot fail to meet with acceptance."—*Boston Traveller*.

"World-English deserves the careful consideration of all serious scholars."—*Modern Language Notes*.

Sent, postpaid, on receipt of price.

N. D. C. HODGES, 874 Broadway, N. Y.

THE MODERN MALADY; or, Sufferers from 'Nerves.'

An introduction to public consideration, from a non-medical point of view, of a condition of ill-health which is increasingly prevalent in all ranks of society. In the first part of this work the author dwells on the errors in our mode of treating Neurasthenia, consequent on the wide ignorance of the subject which still prevails; in the second part, attention is drawn to the principal causes of the malady. The allegory forming the Introduction to Part I. gives a brief history of nervous exhaustion and the modes of treatment which have at various times been thought suitable to this most painful and trying disease.

By CYRIL BENNETT.

12°, 184 pp., \$1.50.

THE RADIOMETER.

By DANIEL S. TROY.

This contains a discussion of the reasons for their action and of the phenomena presented in Crookes' tubes.

Price, postpaid, 50 cents.

N. D. C. HODGES,

874 BROADWAY, NEW YORK.

Pennsylvania Bedford Springs Mineral Water

For Liver, Kidney and Bladder Troubles.
For Gravel, Gall Stones, Jaundice.
For Dyspepsia, Rheumatism and Gout.
For Dropsy, Bright's Disease, Diabetes.
For Hemorrhoids, Etc.

It has been used medicinally and prescribed by physicians for nearly one hundred years.

DIRECTIONS:—Take one or two glasses about a half-hour before each meal.

Case One Dozen Half-Gallon Bottles, \$4.50.

Case Fifty Quarts (Aerated), \$7.50.

Bedford Mineral Springs Co., Bedford, Pa.

Philadelphia Office, 1004 Walnut St.



\$25 to \$50 per week, to Agents, Ladies or Gentlemen, using or selling "Old Reliable Plater."

"Daily practical way to replace rusty and worn knives, forks, spoons, etc.; quickly done by dipping in melted metal. No experience, polishing or machinery. Thick plate at one operation; lasts 2 to 10 years; fine finish when taken from the plater. Every family has plenty to do. Plater sells readily. Profits large. W. P. Harrison & Co., Columbus, O."

MINERALS.

New Store.
New Stock.

New Departments.

Send for our "Winter Bulletin," recently issued. Minerals, Gems, Microscopical Sections, Fine Lapidary Work.

GEO. L. ENGLISH & CO., Mineralogists,

Removed to 64 East 12th Street, New York

