

hands of mercy, to remind each passer-by — the physician and the nurse, as they pursue their ministry of relief; the student, as he begins his daily task; and the sufferer from injury or disease — that over all this institution rests the perpetual benediction of Christian charity, the constant spirit of "good will to man." Upon one hill of Baltimore rises a temple "whose guardian crest, the silent cross," is an emblem of the Christian faith; upon another a lofty column reminds us of the patriots' hope; upon a third the Hôtel-Dieu is placed, — the house of charity. Significant triad! Here "abideth faith, hope, charity, . . . but the greatest of these is charity."

## BOOK-REVIEWS.

*Economic Value of Electric Light and Power.* By A. R. FOOTE. Cincinnati, Robert Clarke & Co. 16°. \$1.

THE author of this little book claims that the spirit moved him, as it were, to write it *pro bono publico*. The book is essentially a collection of papers read before scientific societies, and extracts from magazine articles on the applications of electricity for producing light and in the transmission of power. Mr. Foote is a strong believer in the future of electricity as an agent in furthering human comfort, and we doubt not that many who may be pondering on the question of introducing electricity in their homes or factories will find valuable suggestions within the covers of this book. In an appendix is given a glossary of electrical terms for the benefit of unprofessional readers.

*Treatise on Trigonometry.* By W. E. JOHNSON. London and New York, Macmillan. 12°. \$2.25.

THIS work is intended for both those who are beginning the subject and hope to continue their mathematical studies, and those

who wish to revive their knowledge of trigonometry and to extend it beyond the limits of the ordinary text-book. The treatise is so written as to make a good introduction to much of the higher mathematics; Chapter IX., on the geometry of the triangle, being sure to help those desirous of entering upon modern geometrical developments, and the final chapter presenting a fair view of the transition from the earlier interpretations of  $\sqrt{-1}$  to the quaternions of Hamilton.

## AMONG THE PUBLISHERS.

HARPER BROTHERS published last week H. Rider Haggard's story of "old and mysterious Egypt," entitled "Cleopatra: being an Account of the Fall and Vengeance of Harmachis, the Royal Egyptian, as set forth by his own Hand." The book is profusely illustrated from drawings by Mr. Greiffenhagen and R. Caton Woodville.

— D. Lothrop Company have issued recently, among many other books, "One Voyage," a story of life at sea from the passenger's point of view, by Capt. Julius A. Palmer; also a pictorial "History of England in Rhyme," and a similar one of the United States. Later they will publish new editions of "Art for Young People" and "Adventures of the Early Discoverers," by Mrs. F. A. Humphrey.

— The J. B. Lippincott Company have in preparation "Elementary Lessons in Heat," by Professor S. E. Tillman, of the United States Military Academy; and a new subscription-book entitled "A Manual of Machine Construction," a practical reference-book for the design, proportions, and method of constructing all kinds of machinery in common use, with all required references for the use of engineers, draughtsmen, and mechanics, by John Richards.

Publications received at Editor's Office,  
June 17-29.

- ALDEN's Manifold Cyclopaedia of Knowledge and Language. Vol. XIII. Electricity to Exclaim. New York, J. B. Alden. 12°. 50 cents.
- BLANFORD, H. F. A Practical Guide to the Climates and Weather of India, Ceylon and Burmah and the Storms of Indian Seas. London and New York, Macmillan. 369 p. 8°. \$3.50.
- DORRIS, SOPHIE. The Beginners' Book in German. Boston and London, Ginn. 273 p. 12°. 90 cents.
- GEPP, C. G., and HAIGH, A. E. A Latin-English Dictionary. Boston, Ginn. 563 p. 12°. \$1.40.
- LIGHT on the Path, with Notes and Comments by the Author. Written down by M. C. Boston, Theosophical Book Co. 68 p. 16°. 30 cents.
- LOEWY, B. A Graduated Course of Natural Science. Part I. London and New York, Macmillan. 151 p. 16°. 60 cents.
- MEADOWCROFT, W. H. The A B C of Electricity. New York, Lovell. 108 p. 12°. 50 cents.
- PENNSYLVANIA Geological Survey. Catalogue of the Geological Museum. Part III. Harrisburg, Geol. Surv. 260 p. 12°.
- Atlas Northern Anthracite Field. Part III. Harrisburg, Geol. Surv. 8 maps. 8°.
- Atlas to Reports HH and HHH. Harrisburg, Geol. Surv. 56 p. 5 maps. 8°.
- PLATO's Protagoras; with the Commentary of Hermann Sauppe. Tr. by James A. Towle. Boston and London, Ginn. 179 p. 12°. \$1.50.
- SMITHSONIAN INSTITUTION. Annual Report of the Board of Regents of the, for the Year ending June 30, 1886. Part I. Washington, Government. 878 p. 8°.
- Two Great Retreats of History. I. The Retreat of the Ten Thousand. II. Napoleon's Retreat from Moscow. With Introduction and Notes by D. H. M. Boston, Ginn. 318 p. 16°. 60 cents.
- U. S. WAR DEPARTMENT. Annual Report of the Chief Signal Officer of the Army to the Secretary of War for the Year 1888. Washington, Government. 418 p. 8°.
- WEISMANN, A. Essays upon Heredity and Kindred Biological Problems. Oxford, Clarendon Pr. 455 p. 8°. (New York, Macmillan.)

## Old and Rare Books.

One Million Magazines. Back numbers, vols. and sets—old and new, Foreign and American. CATALOGUE UPON APPLICATION.

A. S. CLARK,  
34 Park Row, New York City.

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

NOW READY! A NEW WORK!  
— OF —

## A. B. C. ELECTRICITY.

By WM. H. MEADOWCROFT.

Endorsed by THOS. A. EDISON. 1 volume, limp cloth, fully illustrated; price, 50 cents.

## WHAT THE PRESS SAYS:

- "A clear and comprehensive little treatise."—*N. Y. Sun*.
- "Electrical science is making magnificent strides, and this book fills a useful office, in setting forth the features and characters of these advances."—*Brooklyn Times*.
- "The need of such a book has undoubtedly been felt by many . . . we predict for it a splendid sale."—*The Age of Steel*.
- "A book like this should be largely read."—*N. Y. Herald*.
- "The book is well illustrated, and no pains have been spared to make it accurate and reliable throughout."—*Electrical Review*.
- "In simple language the author lays bare the secrets of electrical science and application."—*Electrical World*.
- "A vast amount of useful importance."—*Washington Post*.
- Sent post-paid to any address on receipt of price by

FRANK F. LOVELL & COMPANY,  
142 & 144 West St., New York.

## NORTH AMERICAN REVIEW.

JULY, 1889.  
CONTENTS:

DISCIPLINE IN AMERICAN COLLEGES. S. C. Bartlett, President Dartmouth; Jas. B. Angell, President University of Michigan; Prof. N. S. Shaler of Harvard; Charles K. Adams, President Cornell; William D. W. Hyde, President Bowdoin; Sir J. W. Dawson, Principal McGill University; Horace Davis, President University of California. An English View of the Civil War—II. Lord Wolseley The Telegraph Monopoly. . . . Prof. Richard T. Ely Our Future Navy. . . . Rear Admiral S. B. Luce, U.S.N. The Throne in England. . . . Justin McCarthy, M.P. Our Ignorance of Alaska. . . . Kate Field The Negro Intellect. . . . William Mathews, LL.D. A Plague of Office Seeking. Gen. Charles H. T. Collin TRIBUTES TO ALLEN THORNDIKE RICE. William Waldorf Astor, Edwards Pierrepont, Gen. William T. Sherman, Lloyd Bryce (by cable.)

## NOTES AND COMMENTS.

Foreign Influence on American Fiction. . . . Maurice Thompson American Auguries. . . . Felix L. Oswald The Future of the Newspaper. . . . Julian Proctor Abolishing Poverty—on Paper. The Rev. J. B. Wasson "Thought-Transference" . . . . W. A. Croft Protection for Our Language. . . . N. A. Campbell French Proper Names in English. . . . M. B. Thrasher Fifty cents. All Newsdealers.

## D. APPLETON &amp; CO.

HAVE JUST PUBLISHED

I.

## Education in the United States.

ITS HISTORY FROM THE EARLIEST SETTLEMENTS. By RICHARD G. BOONE, A.M., Professor of Pedagogy in Indiana University. Volume XI of "The International Education Series," edited by W. T. HARRIS, LL.D. 12mo, cloth. Price, \$1.50.

This work, which is the first noteworthy attempt at a general history of education in the United States, forms a tolerably complete inventory of what exists, as well as an account of its origin and development. It includes: I, The Colonial Period; II, The Revolutionary Period; III, The Period of Reorganization; IV, Current Educational Interests.

II.

## Stellar Evolution and its Relation to Geological Time.

By JAMES CROLL, F.R.S., author of "Climate and Time," "Climate and Cosmology." 12mo, cloth. Price, \$1.00.

A treatise upon the probable origin of meteorites, comets, and nebulae, upon the age of the sun's heat, and upon the pre-nebular condition of the universe.

1, 3, & 5 BOND STREET, New York.

HEAVEN AND HELL, by EMANUEL SWEDENBORG, 416 pages, paper cover. Mailed pre-paid for 14 Cents by the American Swedenborg Printing and Publishing Society, 20 Cooper Union, New York City.

in results of any electrically equipped road; it having at its power-station but one 30-horse-power generator, which operates eight cars over grades running as high as 10 per cent without indications of overheating, and frequently tow-cars are used with those equipped with motors. On one branch of the system the necessity of speedy equipment compelled the use of a No. 2 copper wire without feeders, such wire being the only available material; yet, with this small conductor, the cars are run at a rate of six miles per hour up a 10-per-cent grade, three miles distant from the station.

The Omaha and Council Bluffs Railway and Bridge Company are progressing rapidly with the electrical equipment of the recently purchased horse-car lines in Council Bluffs. For the operation of such lines they have purchased ten additional motor-trucks and two generators from the Thomson-Houston Electric Company. In placing this order for additional apparatus, the management of the road state, in a letter to the Thomson-Houston Company, that

they consider their present line equipped with the Thomson-Houston system the most perfect electric railway in the world.

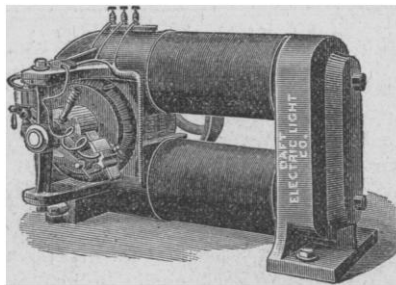
The Omaha Motor Railway Company is nearly ready to begin operations with the Thomson-Houston electric system. The largest power-station which has yet been constructed for electric-railway operation is owned by this company, and the car-equipment ranks second in quantity among electric railways yet constructed, it having twenty-six motor-cars, each of which will be used to tow at least one additional car, and many of the motor-cars will tow two additional cars. The success of the Thomson-Houston system on the Omaha and Council Bluffs line has made the citizens of Omaha jubilant at the immediate prospect of such rapid transit being given them over their entire city. In addition to the equipment ready to be put in, the company intends to add twenty additional motor-cars upon the extensions to its system within a few months.

## DAFT ELECTRIC LIGHT COMPANY.

Power Stations.

Stationary Motors

$1\frac{1}{2}$  to 100 H.P.



Electric Railways.

Car Motors 15 to

250 H.P.

Executive Office, 115 Broadway, N.Y.

FACTORY, JERSEY CITY, N. J. Please Mention "Science."

## GUARANTY INVESTMENT COMPANY

CAPITAL \$250,000.

Offices: Atchison, Kan. 191 Broadway, New York, 222 Walnut St., Phila.

Hon. ALBERT H. HORTON (Chief Justice, Kansas Supreme Court), Topeka, Kan., Pres't.

**7% Guaranteed Farm Mortgages 7%**

*The Guaranty Investment Company makes loans upon fertile farms in the choicest portions of Kansas and Nebraska and has adopted the policy of sending a Committee of its Investors each year to examine its loans and methods of business.*

*The Committee this year consisted of PROF. A. H. BERLIN, Principal of the High School Montrose, Pa., and MAJ. THEODORE L. POOLE, Ex-U. S. Pension Agent, Syracuse, N. Y. Both of these gentlemen are persons of the highest character and have the confidence of the Communities in which they reside.*

*The Committee has recently returned and has made a very interesting Report upon the general development of Kansas and Nebraska as well as the business of the Company. The Company will be glad to send this Report to any address.*

*The following names are taken from the long list of Investors in our Mortgages:*

(See if Some Friend of Yours is not in the List.)

William A. Cauldwell, 59 Liberty St., N.Y.  
Palmer Cox, 658 Broadway, N.Y.  
Rev. Jos. H. Rylance, D.D., 11 Livingston Place, N.Y.  
Rev. Brady E. Backus, D.D., 360 West 28th St., N.Y.  
Rev. R. M. Sommerville, 126 West 45th St., N.Y.  
Dr. Robert A. Murray, 235 West 23d St., N.Y.  
Dr. James P. Tuttle, 136 West 41st St., N.Y.  
H. Edwards Rowland, 218 Fulton St., N.Y.  
Irving H. Tift, Esq., 271 Broadway, N.Y.  
Prof. D. G. Eaton, 55 Pineapple St., Brooklyn, N.Y.  
Dr. E. P. Thwing, 156 St. Marks Ave., Brooklyn, N.Y.  
Dr. C. C. Miles, Greenport, N.Y.  
John V. N. Bergen, Port Jefferson, N.Y.  
Benj. W. Stilwell, Yonkers N.Y.

R. C. Coleman, Goshen, N.Y.  
Mrs. Samuel Carlisle, Newburg, N.Y.  
Dr. C. C. Bartholomew, Ogdensburg, N.Y.  
Rev. Nelson Millard, D.D., Rochester, N.Y.  
Rev. Horace G. Hinsdale, D.D., Princeton, N.J.  
Dr. Charles M. Howe, Passaic, N.J.  
George A. Skinner, 5 Railroad Place, Newark, N.J.  
Dr. Edwin M. Howe, 85 Halsey St., Newark, N.J.  
Dr. H. G. Buckingham, Clayton, N.J.  
Dr. Martin Cole, Jr., Hainesville, N.J.  
Mortgage Trust Co. of Pa., Philadelphia, Pa.  
Miss Mary Miller, 1230 Spruce St., Philadelphia, Pa.  
Henry D. Biddle, 311½ Walnut St., Philadelphia, Pa.

Dr. Calvin C. Halsey, Montrose, Pa.  
Rev. William Baldwin, Great Bend, Pa.  
Gen. William Lilly, Mauch Chunk, Pa.  
Second Nat. Bank, Mauch Chunk, Pa.  
Enos E. Thatcher, West Chester, Pa.  
Mrs. Townsend Poore, Scranton, Pa.  
Rev. Burdett Hart, D.D., New Haven, Conn.  
Dr. Frank H. Wheeler, New Haven, Conn.  
Charles R. Christy, Stamford, Conn.  
Mrs. Catharine P. Fuller, Woodmont, Conn.  
Miss Jessie Henderson, Lenox, Mass.  
Dr. M. J. Halloran, Worcester, Mass.  
Albert Walker, Bennington, Vt.

Address for Report and Monthly Bulletin

HENRY A. RILEY, General Eastern Manager, 191 Broadway, N.Y.