

other than the Prudden a few lines below. On this same page "Micro-coccus pyogenes amicus" is spoken of as "a bacillus."

Sometimes a curiously involved sentence is met with, as the following: "We are thus not fixed entities, as most of us are apt to consider ourselves; nor have we the gratification of even thinking ourselves here for the formerly supposed seven years at least" (p. 20). An over-critical reader, too, might take exception to the introduction of the personal element in the following: "Following the logic of these views, Dr. Koch's theory as to the possibility of the cure of consumption by an injection of a preparation of what may be called the dejecta of the bacillus of consumption must of necessity be an error, and I would say that I have held this view from the time of first publication of his supposed cure" (p. 68).

The History of Modern Education. By SAMUEL G. WILLIAMS. Syracuse, C. W. Bardeen. 12°. 403p. \$1.50.

THIS work consists of a series of lectures which the author has been delivering for some years past as professor of the science and art of teaching in Cornell University. The entire course comprised also an account of ancient and mediæval education; but the part relating to modern times is the only part now published as being more generally interesting than the rest. Mr. Williams begins his narrative with the Renaissance, of which in its bearings on education he gives a brief but excellent account. In dealing with the religious Reformation and its results, he is not so happy; and throughout the book the subject of religious education receives less attention than it deserves. Mr. Williams treats the history of educational progress by centuries, showing what in his view were the leading characteristics of each century and its principal contributions to educational thought and practice; and this account of the general characteristics of the century is followed in each case by a sketch of the most prominent educators that the century produced. Throughout the book the author shows great impartiality and much good sense in his judgment of men and methods; and, what is no small merit in the

present age, he is entirely free from hobbies. Some of our educators talk as if real education came into the world with Pestalozzi and Froebel, and that in the theory and practice of certain "advanced thinkers" of the present day it has reached perfection. Mr. Williams is under no such hallucination. He reminds his readers that time is the only sure test of historic events, and intimates that some of the ideas of the present day may be found hereafter to have no such importance as is now attached to them. Nevertheless, he devotes one of his longest and most elaborate chapters to the leading educational ideas of the nineteenth century, thus bringing his work down to the very decade in which we now live. He takes pains to show, however, that many things that are thought to be specially characteristic of the present age were anticipated by the thinkers and teachers of the sixteenth and seventeenth centuries. Mr. Williams's style is not always so clear as might be wished, and has no great literary merit; but it is generally intelligible, and its moral tone is good. On the whole, these lectures will serve a useful purpose as an introduction to the educational history of modern times.

Influenza. By CHARLES H. MERZ, M.D. Sandusky, O. 96 p.

It would be manifestly unfair to expect too much of a "little treatise" that attempts to discuss a very special topic in a very general manner. The book was evidently written to meet the popular interest in its subject, and this fact alone explains perhaps the infelicities, not to say inaccuracies, of expression that are far too frequent on its pages. The history, etiology, symptoms, pathology, diagnosis, and prognosis, complications, and treatment of influenza are discussed with more or less success, the whole leaving a decided impression of hasty construction.

One is somewhat amazed, for example, when one reads, *apropos* of the phagocyte theory, of the odds arrayed against the Darwinian principle: "It is a fight between two forces and the survival of the fittest" (p. 23). On the same page the name of the eminent author of the doctrine of phagocytosis is hardly recognizable under the mask of "Metschini-Koft."

Horsford's

ACID PHOSPHATE,

Recommended and prescribed
by physicians of all schools

FOR

DYSPEPSIA, NERVOUSNESS,
EXHAUSTION,
and all diseases arising from
imperfect digestion and derangements of the nervous system.

It aids digestion, and is a
brain and nerve food.

Descriptive pamphlet free.

Rumford Chemical Works, Providence, R. I.

Beware of Substitutes and Imitations.

LITERARY OUTFIT FREE.

Any one sending us \$1.00 at once and mentioning "Science," will receive a copy of "Historical Sketches and Events in the Colonization of America," by G. B. Hall. A square 8vo. book (6½x9 inches), 223 pages, illustrated. This is a regular \$2.00 book and a bargain at that price. . . . \$ 2 00
200 Private Library Labels; they should be used by all who own books. . . . 50
"The Library," a 100-page book containing a brief list of most important standard and miscellaneous books in every department of literature. Intended for those who are about forming a library. Hints about what books to read and how to buy them. . . . 50
1 year's subscription to the "Literary Light," a monthly magazine of Ancient, Mediæval and Modern Literature. . . . 1 00

\$4.00 actual value for \$1.00. Sample copy of "Literary Light," 10 cents (postal card won't do).

Address, **Literary Light,**
243 4th Ave. S. Minneapolis, Minn.

ADDRESS ON THE DEVELOPMENT OF THE

MEMORY

To introduce a series of valuable
educational works the above
will be sent to all applicants

FREE

Room **JAMES P. DOWNS, PUBLISHER,**
327. 243 BROADWAY, NEW YORK.

THE CHEAPEST AND BEST!
Photo Engraving Co.
67 PARK PLACE, NEW YORK
ENGRAVING FOR ALL ILLUSTRATIVE AND
ADVERTISING PURPOSES

MINERALS. Cabinet Specimens, Collections, and material by the pound, for mineralogists, collectors, colleges, schools, and chemists. Send for 100-page catalogue, paper bound, 15 cents; cloth bound, 25 cents; supplement, 2 cents. GEO. L. ENGLISH & Co., Mineralogists, 733 & 735 B'way, N. Y.

THE WEEKLY BULLETIN

OF NEWSPAPER AND PERIODICAL
LITERATURE.

Catalogues and Classifies Each Week
**THE PRINCIPAL CONTENTS OF
THE PERIODICAL PRESS.**

That huge mass of material heretofore inaccessible to the eager student is now rendered available. Special attention is invited to the Bulletin's

INDEX OF TECHNICAL LITERATURE

Send for a free sample copy and learn how

The Bulletin Supplies

The Articles Catalogued.

Address **THE WEEKLY BULLETIN,**
5 Somerset Street, - - Boston, Mass.

ESTERBROOK'S STEEL PENS.

OF SUPERIOR AND STANDARD QUALITY.

Leading Nos.: 048, 14, 130, 135, 239, 333
For Sale by all Stationers.

THE ESTERBROOK STEEL PEN CO.,
Works: Camden, N. J. 26 John St., New York.

**NEW ARC LAMP
COLLEGE PROJECTOR**
FOR INCANDESCENT
CURRENT.
ABSOLUTELY
STEADY LIGHT.
SEND FOR CIRCULAR TO
J.W. QUEEN & CO.
PHILA. PA.

QUERY.

Can any reader of *Science* cite a case of lightning stroke in which the dissipation of a small conductor (one-sixteenth of an inch in diameter, say,) has failed to protect between two horizontal planes passing through its upper and lower ends respectively? Plenty of cases have been found which show that when the conductor is dissipated the building is not injured to the extent explained (for many of these see volumes of Philosophical Transactions at the time when lightning was attracting the attention of the Royal Society), but not an exception is yet known, although this query has been published far and wide among electricians.

First inserted June 19, 1891. No response to date.

N. D. C. HODGES,
874 BROADWAY, NEW YORK.

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, N. Y.

THE BOTANICAL GAZETTE.

A monthly illustrated journal of botany in all its departments.

25 cents a number, \$2.50 a year.

Address **PUBLISHERS BOTANICAL GAZETTE,**
Bloomington, Ind.

JOHN IRELAND'S Bookstore, 1197 Broadway

near 29th St., is convenient to the residence quarter of the city; it is a good place to drop into on the way up or down town to select books or stationery. His stock is well selected and embraces all the new and standard books as soon as issued. Out-of-town purchasers can order by mail with every confidence that their wants will be as well supplied as if buying in person.

AUTHORS AND PUBLISHERS.

Material arranged and compiled for all kinds of works, excepting fiction. Statistics a specialty. Indexing and cataloguing. Address G. E. BIVER, 895 N. 16th Street, Philadelphia.

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

TO THE READERS OF SCIENCE.

PUBLISHER'S ANNOUNCEMENT.

Titles of Some Articles Published in *Science* since
Jan. 1, 1892.

Aboriginal North American Tea.
Actinism.
Agriculture, Experimental, Status of.
Amenhotep, King, the tomb of.
Anatomy, The Teaching of, to Advanced Medical Students.
Anthropology, Current Notes on.
Architectural Exhibition in Brooklyn.
Arsenical Poisoning from Domestic Fabrics.
Artesian Wells in Iowa.
Astronomical Notes.
Bacteria, Some Uses of.
Botanical Laboratory, A.
Brain, A Few Characteristics of the Avian.
Bythoscopidae and Cereopidae.
Canada, Royal Society of.
Celts, The Question of the.
Chalcidotherium, The Ancestry of.
Chemical Laboratory of the Case School of Applied Science.
Children, Growth of.
Collection of Objects Used in Worship.
Cornell, The Change at.
Deaf, Higher Education of the.
Diphtheria, Tox-Albumin.
Electrical Engineer, The Technical Education of.
Eskimo Throwing Sticks.
Etymology of two Iroquoian Compound Stems.
Eye-Habits.
Eyes, Relations of the Motor Muscles of, to Certain Facial Expressions.
Family Traits, Persistency of.
Fishes, The Distribution of.
Fossils, Notice of New Gigantic.
Four-fold Space, Possibility of a Realization of.
Gems, Artificial, Detection of.
Glacial Phenomena in Northeastern New York.
Grasses, Homoptera Injurious to.
Great Lakes, Origin of the Basins of.
"Healing, Divine."
Hemipter, us Mouth, Structure of the.
Hofmann, August Wilhelm von.
Hypnotism among the Lower Animals.
Hypnotism, Traumatic.
Indian occupation of New York.
Infant's Movements.
Influenza, Latest Details Concerning the Germs of.
Insects in Popular Dread in New Mexico.
Inventions in Foreign Countries, How to Protect.
Inventors and Manufacturers, the American Association of.
Iowa Academy of Sciences.
Jargon, The Chinook.
Jassidae, Notes on Local.
Keller, Helen.
Klamath Nation, Linguistics.
Laboratory Training, Aims of.
Lewis H. Carvill, Work on the Glacial Phenomena.
Lightning, The New Method of Protecting Buildings from.
Lissajou's Curves, Simple Apparatus for the Production of.
Maize Plant, Observations on the Growth and Chemical Composition of.
Maya Codices, a Key to the Mystery of.
Medicine, Preparation for the Study of.
Mineral Discoveries, Some Recent, in the State of Washington.
Museums, The Support of.
Palenque Tablet, a Brief Study of.
Patent Office Building, The.
Physsa Heterostrophia Lay, Notes on the Fertility of.
Pocket Gopher, Attempted Extermination of.
Polariscopes, Direct Reflecting.
Psychological Laboratory in the University of Toronto.
Psychological Training, The Need of.
Psylla, the Pear-Tree.
Rain-Making.
Rivers, Evolution of the Loup, in Nebraska.
Scientific Alliance, The.
Sistrurus and Crotalophorus.
Star Photography, Notes on.
Star, The New, in Auriga.
Storage of Storm-Waters on the Great Plains.
Teaching of Science.
Tiger, A New Sabre-Toothed, from Kansas.
Timber Trees of West Virginia.
Trachea of Insects, Structure of.
Vein-Formation, Valuable Experiments in.
Weeds as Fertilizing Material.
Will, a Recent Analysis of.
Wind-Storms and Trees.
Wines, The Sophisticated French.
Zoology in the Public Schools of Washington, D. C.

Some of the Contributors to *Science* Since Jan. 1, 1892.

Aaron, Eugene M., Philadelphia, Pa.
Allen, Harrison, Philadelphia, Pa.
Baldwin, J. Mark, University of Toronto, Canada.
Barnes, Charles Reid, Madison, Wis.

Baur, G., Clark University, Worcester, Mass.
Beal, W. J., Agricultural College, Mich.
Beals, A. H., Milledgeville, Ga.
Beauchamp, W. M., Baldwinville, N.Y.
Boas, Franz, Clark University, Worcester, Mass.
Bolley, H. L., Fargo, N. Dak.
Bostwick, Arthur B., Montclair, N.J.
Bradley, Milton, Springfield, Mass.
Brinton, D. G., Philadelphia, Pa.
Call, E. Ellsworth, Des Moines, Ia.
Chandler, H., Buffalo, N.Y.
Comstock, Theo. B., Tucson, Arizona.
Conn, H. W., Middletown, Conn.
Cragin, F. W., Colorado Springs, Col.
Davis, W. M., Harvard College, Cambridge, Mass.
Dimmock, George, Canobie Lake, N.H.
Farrington, E. H., Agricultural Station, Champaign, Ill.
Ferree, Barr, New York City.
Flexner, Simon, Johns Hopkins University, Baltimore, Md.
Foshay, F. Max, Rochester, N.Y.
Gallaudet, E. M., Kendall Green, Washington, D.C.
Garman, S., Museum of Comp. Zool., Cambridge, Mass.
Golden, Katherine E., Agricultural College, Lafayette, Ind.
Hale, Edwin M., Chicago, Ill.
Hale, George S., Boston, Mass.
Hale, Horatio, Clinton, Ontario, Canada.
Hall, T. Proctor, Clark University, Worcester, Mass.
Halsted, Byron D., Rutgers College, New Brunswick, N.J.
Haworth, Erasmus, Oskaloosa, Iowa.
Hay, O. P., Irvington, Ind.
Haynes, Henry W., Boston, Mass.
Hazen, H. A., Weather Bureau, Washington, D.C.
Hewitt, J. N. B., Bureau of Ethnology, Washington, D.C.
Hicks, L. E., Lincoln, Neb.
Hill, E. J., Chicago, Ill.
Hill, Geo. A., Naval Observatory, Washington, D.C.
Hitchcock, Romyn, Washington, D.C.
Holmes, E. L., Chicago, Ill.
Hotchkiss, J. E., Staunton, Va.
Howe, Jas. Lewis, Louisville, Ky.
Hubbard, Gardner G., Washington, D.C.
Jackson, Dugald C., Madison, Wisconsin.
James, Joseph F., Agricultural Dept., Washington, D.C.
Johnson, Roger B., Miami University, Oxford, O.
Kellerman, Mrs. W. A., Columbus, O.
Kellicott, D. S., State University, Columbus, O.
Kellogg, D. S., Plattsburgh, N. Y.
Littner, J. A., Albany, N. Y.
Loeb, Morris, New York City.
Mabery, Charles F., Cleveland, Ohio.
Macloskie, G., Princeton, N.J.
McCarthy, Gerald, Agricultural Station, Raleigh, N.C.
MacDonald, Arthur, Washington, D.C.
Marshall, D. T., Metuchen, N.J.
Mason, O. T., Smithsonian Institution, Washington, D.C.
Millsbaugh, Charles F., Morgantown, W. Va.
Nichols, C. F., Boston, Mass.
Nuttall, George H. F., Johns Hopkins University, Baltimore, Md.
Oliver, J. E., Cornell University, Ithaca, N.Y.
Osborn, Henry F., Columbia College, New York City.
Osborn, Herbert, Agricultural College, Ames, Iowa.
Pammel, L. H., Agricultural Station, Ames, Iowa.
Pillsbury, J. H., Smith College, Northampton, Mass.
Potat, W. L., Wake Forest, N. C.
Preston, Jr., W. P., New York City.
Ruffner, W. H., Lexington, Va.
Sanford, Edmund C., Clark University, Worcester, Mass.
Schufeldt, R. W., Washington, D.C.
Scripture, E. W., Clark University, Worcester, Mass.
Slade, D. D., Museum Comp. Zool., Cambridge, Mass.
Smith, John B., Rutgers College, New Brunswick, N.J.
Southwick, Edmund B., New York City.
Stevens, George T., New York City.
Stevenson, S. Y., Philadelphia, Pa.
Stone, G. H., Colorado Springs, Col.
Thomas, Cyrus, Washington, D. C.
Thurston, R. H., Cornell University, Ithaca, N.Y.
Todd, J. E., Tabor, Iowa.
True, Frederick W., National Museum, Washington, D.C.
Turner, C. H., University of Cincinnati, Cincinnati, O.
Wake, C., Staniland, Chicago, Ill.
Ward, R. DeC., Harvard University, Cambridge, Mass.
Ward, Stanley M., Scranton, Pa.
Warder, Robert B., Howard University, Washington, D.C.
Welch, Wm. H., Johns Hopkins University, Baltimore, Md.
West, Gerald M., Clark University, Worcester, Mass.
Whitman, C. O., Clark University, Worcester, Mass.
Williams, Edward H., Lehigh University, Bethlehem, Pa.