

brought into rotary motion, which drives the surface-air away from a centre. The vapor atmosphere is thereby caused to approach the earth's surface, and by thus descending is brought under greater pressure, so as to give off rain at the centre of the cyclone, as explained above.

Having, by a simple way of reasoning, arrived at the conclusion that an atmosphere of pure aqueous vapor must exist outside the atmosphere proper, we should not feel justified in stopping without carrying our idea out in at least some of its consequences, although the following remarks do not concern our immediate subject, the cause of rain. Supposing there was an outer limit to this aqueous atmosphere, the difficulty which would present

itself is, that we should find aqueous vapor alongside of the vacuum of space. It is well known that when moisture is brought into an artificially produced vacuum, the latter gets instantaneously filled with aqueous vapor. How is this experiment to agree with the popular notion that vapor, as well as the other constituents of the atmosphere, is kept within limits round the earth by means of gravitation? If the vapors of the supposed outer border of the atmosphere were prevented from entering space owing to gravitation, how much more would the vapors at the bottom of an artificial vacuum be prevented from filling this space, as the force of gravity is much the greater at the earth's surface than at a supposed outer border of the atmosphere?

JUST OUT.

Speech Reading and Articulation Teaching.

By A. MELVILLE BELL.

Price, 25 Cents.

Practical Instructions in the Art of Reading Speech from the Mouth; and in the Art of Teaching Articulation to the Deaf.

[This Work—written at the suggestion of Miss Sarah Fuller, Principal of the Horace Mann School for the Deaf, Boston, Mass.—is, so far as known, the first Treatise published on "Speech Reading."]

. The above work may be obtained, by order, through any bookseller, or post-free on receipt of price, from

N. D. C. HODGES,

47 Lafayette Place, New York.

AMONG CANNIBALS.

An Account of Four Years' Travels in Australia, and of Camp Life with the Aborigines of Queensland. By CARL LUMHOLTZ. With over 100 Illustrations. 8vo, \$5.00.

From Dr. Schliemann.

"I have read the book with immense interest and delight. It is a work which will have a very long life, for it is full of useful knowledge. The reader forgets that he is reading a mere description, and thinks that he is at the author's side, and shares with him the hardships, dangers and joys of the life among cannibals in the wilderness of Australia. The whole civilized world must be grateful for this really wonderful work."—*H. Schliemann.*

Religious Aspect of Evolution.

By JAMES MCCOSH, D.D., LL.D., Litt.D. 12mo, \$1.00.

Dr. McCosh's belief in evolution is well known, and his purpose in this series of lectures is to show that the theory of evolution is not inconsistent with religion, and that one may follow science and still retain his faith in the Bible.

"One of the best epitomes of the relation of the Creator to His earth, in the process of creation, that has been written."—*Hartford Courant.*

Emigration and Immigration.

A Study in Social Science. By Prof. RICHMOND M. SMITH, of Columbia College. 12mo, \$1.50.

Prof. Smith's book is extremely comprehensive in scope and liberal in treatment. It is a popular examination of one of the most urgent of present-day problems from historical, statistical, economic and social points of view, the information being full and exact, and the author's style being a model of terseness and clearness.

. For sale by all Booksellers, or sent, post-paid, on receipt of price by the Publishers,

CHARLES SCRIBNER'S SONS, 743-755 Broadway, New York.

A DICTIONARY OF APPLIED CHEMISTRY.

By T. E. THORPE, B.Sc., (Vict.), Ph.D., F.R.S., Treas. C.S.

Professor of Chemistry in the Normal School of Science and Royal School of Mines, South Kensington; assisted by Eminent Contributors.

To be Completed in Three Volumes.

VOLUME I. (A-DY.) NOW READY. - - - Royal 8vo., Half-bound. 723 Pages. \$15.00.

. This work is essentially a Dictionary of Chemistry in its Applications to the Arts and Manufactures; hence it deals but sparingly with the purely scientific aspects of Chemistry, unless these have some direct and immediate bearing upon the business of the technologist. For all such matters, reference is made to the new edition of 'Watts' Dictionary of Chemistry,' by Dr. Forster Morley and Mr. Pattison Muir, to which, indeed, the present work may be said to be complementary.

WATTS' DICTIONARY OF CHEMISTRY.

Revised and entirely rewritten by H. Forster Morley, M.A., D.Sc., Fellow of and lately Assistant Professor of Chemistry in University College, London; and M. M. Pattison Muir, M.A., F.R.S.E., Fellow and Prælector in Chemistry of Gonville and Caius College, Cambridge. Assisted by Eminent Contributors. New Edition. To be published in Four volumes. 8vo. Vols. I. and II. now ready (A-IN). Price, each, \$14.50.

Modern Theories of Chemistry.

By Dr. Lothar Meyer, Professor of Chemistry in the University of Tübingen. Translated from the German (Fifth Edition) by P. Phillips Bedson, D.Sc. (Lond.), B.Sc. (Vict.), F.C.S., Professor of Chemistry in the Durham College of Science, Newcastle-upon-Tyne, and W. Carleton Williams, B.Sc., F.C.S., Professor of Chemistry in the Firth College, Sheffield. 8vo. \$5.50.

"For the student just entering the real work of chemistry, this book seems to us the most important which has appeared in English for many years."—*Science.*

The Fundamental Principles of Chemistry Practically Taught by a New Method.

By Robert Galloway, M.R.I.A., F.C.S., Hon. Member of the Chemical Society of Lehigh University, etc., etc. With 71 Woodcuts and 729 Exercises and Answers. Crown 8vo. \$1.75.

Inorganic Chemistry,

Theoretical and Practical. With an Introduction to the Principles of Chemical Analysis, Inorganic and Organic. By William Jago, F.C.S., F.I.C., Head Science Master of the Brighton School of Science and Art. Tenth Edition (1889). Rewritten and greatly enlarged. With 196 Experiments, 49 Woodcuts, and numerous Questions and Exercises. (LONGMANS' ELEMENTARY SCIENCE MANUALS.) 350 pp. 12mo. 80 cents.

Elementary Chemistry, Inorganic and Organic.

By W. Furneaux, F.R.G.S., Lecturer on Chemistry, London School Board. With 65 Illustrations and 155 Experiments. (LONGMANS' ELEMENTARY SCIENCE MANUALS.) 12mo. 80 cents.

Longmans, Green & Co. will be happy to send their new Catalogue of Scientific Works to any address upon application.

LONGMANS, GREEN & CO., 15 East Sixteenth Street, New York.