

needs to begin immediately preparations for extension of its water-supply on an enormous scale, if it is to be permitted to grow and to remain a safe and wholesome place of residence and a great business center. This fact has been pointed out by authority frequently and for years past, but no action has been taken by the usually inefficient city government. The supply immediately available will be exhausted in 1903, at present rates of impairment of margin, and by 1910 if the best methods are at once adopted to reduce wastes to a minimum.

The region of the Housatonic cannot be relied upon, it being outside the jurisdiction of the State. The Hudson may be availed of by establishing pumping stations well up the river and securing any needed filtration and purification. A supply from the Adirondacks would cost ten per cent. more but would be pure, or might be made so.

The Ramapo 'job' is discussed. The contract was to compel the City of New York to pay *seventy* dollars a million gallons for water which is now, and can in any quantity later, be had for *thirty* and less. The contract was to continue in force for forty years, and the property then still to remain in the hands of the company. By 1937, were the city to do its own work, its whole system would be paid for, principal and interest. Under municipal ownership there would be a cash profit over the contract work up to 1945 of nearly *fifty millions of dollars*. Under the Ramapo contract there would be a net *loss* of sixty millions and the total difference in favor of the City of New York would be *over one hundred millions of dollars*.

What wonder that the Ramapo scheme was so urgently and insidiously promoted!

The conclusions of the Committee are that no contract should be made with the Ramapo or other private parties; that supply by contract should be opposed by citizens of New York, individually, collectively and in their corporate capacity, with the utmost energy of which they are capable and by every possible means; that the Legislature should give the city power, if further authority is needed, to provide itself with a full supply of pure water, by condemnation as far as required, and should protect the

city against further assault by individuals, corporations or traitorous officials. Steps should be at once taken to check all wastes and to provide for a constant and large increase in the supply of wholesome water.

This report is exceptionally important and every citizen of city or State should secure the opportunity to read it from beginning to end. Every good citizen will be glad to give credit to the few intelligent, enterprising and liberal citizens who have here struck hands in the endeavor to protect this national metropolis from possible piracy in view of the proven stupidity and worse of many of its own officials and of other political leeches.

R. H. THURSTON.

#### GENERAL.

PROFESSOR WILLIAM B. SCOTT, of Princeton University, has in preparation an elaborate work in seven volumes entitled 'Reports on the Princeton Expedition to Patagonia in 1899.' The work, which it is estimated will cost over \$25,000, will be published by Nägeli, in Germany, but arrangements have not yet been made with an American publisher. The edition will be limited to about 500 sets, and the cost of the seven volumes, which will be subdivided into separate books, will be about \$100. It is expected that the volume on invertebrate fossils by Dr. Ortman will be published early next year. The subjects of the volumes and the authors are as follows:

Volume I.—'Botany,' principally by Professor George Macloskie, of the department of biology, of Princeton. The 'Contributions on the subject of Mosses,' by Professor Dusen, of Sweden.

Volume II.—'Recent Mammals,' by Dr. Merriam, of the Department of Agriculture in Washington.

Volume III.—'Birds,' by Professor William E. D. Scott, of Princeton.

Volume IV.—'Zoology of the other groups,' by Dr. Ortman, curator of invertebrate paleontology in Princeton, and Dr. Rankin, of the department of biology of the University.

Volume V.—'Invertebrate Fossils,' principally by Dr. Ortman.

Volumes VI. and VII.—'Vertebrate Fossils,' principally by Professor William B. Scott, of Princeton, with contributions by Mr. Hatcher.

The preliminary autumn announcements of

Messrs. D. Appleton & Company include a new edition of Herbert Spencer's 'First Principles' and 'Elementary Physics,' by C. Hanford Henderson, Ph.D. 'Physical Experiments,' a laboratory manual, by John F. Woodhull, Ph.D., and M. B. Van Arsedale. 'Animal Life,' a first book of zoology, by David Starr Jordan, M.S., M.D., Ph.D., LL.D., and Vernon L. Kellog, M.S. 'The Elementary Principles of Chemistry,' by Abram Van Eps Young, Ph.B. 'An Analytical Key to some of the Common Wild and Cultivated Species of Flowering Plants,' by John M. Coulter, A.M., Ph.D. 'A Text-Book of Geology,' by Albert Perry Brigham, A.M. 'Plant Studies,' an elementary botany, by John M. Coulter, A.M., Ph.D.

## BOOKS RECEIVED.

*Street Pavements and Paving Materials.* GEORGE W. TILLSON. New York, John Wiley & Sons. London, Chapman & Hall, Limited. 1900. 8vo., xii + 532 pp.; 60 figures. \$4.00.

*Die partiellen Differential-Gleichungen.* HEINRICH WEBER. Braunschweig, Friedr. Vieweg & Sohn. 1. Band. 4th ed. Pp. xvii + 506. M. 10.

*Untersuchungen zur Blutgerinnung.* ERNST SCHWALBE. Braunschweig, Friedr. Vieweg & Sohn. 1900. Pp. vi + 89. M. 2.50.

*Verhandlungen der deutschen Zoologischen Gesellschaft.* J. W. SPENGLER. Leipzig, Wilhelm Engelmann. 1900. Pp. 170. M. 6.

*Chemie der Eiweisskörper.* OTTO COHNHEIM. Braunschweig, Friedr. Vieweg & Sohn. 1900. Pp. x + 315.

*Lehrbuch der Mechanik.* ALEX. WERNICKE. Braunschweig, Friedr. Vieweg & Sohn. 1900. Vol. I., pp. xv + 314. Vol. II., pp. xi + 373.

*Leçons de chimie physique; Relations entre les propriétés et la composition.* J. H. VAN'T HOFF. Paris, A. Hermann. 1900. Part III. Pp. ii + 170.

## SCIENTIFIC JOURNALS AND ARTICLES.

*The American Naturalist* for September opens with an account of 'Unusual Modes of Breeding and Development among Anura,' by Lilian V. Sampson, to which is appended a valuable bibliography of literature on the subject. 'The Intestine of *Amia calva*' is described by William A. Hilton, most of the paper being devoted to its microscopic structure. It would seem best

not to use the term 'intestinal convolutions' where the folds of the lining only are meant since the phrase is in general use among zoologists to denote the folds of the entire intestine. Frank Russell presents some 'Studies in Cranial Variation' based on some two thousand skulls of aboriginal Americans. Part XIII. of 'Synopsis of North American Invertebrates,' by G. H. Parker is devoted to the Achnaria. It is to be presumed that this series when completed will be published in book form on account of its great value to the 'general zoologist' as well as the student. There are the customary numerous reviews.

*The Plant World* for September contains the following articles: 'The Harts-tongue in New York and Tennessee' by William R. Maxon, 'Some Local Common Names of Plants' by C. F. Saunders, 'The Twin-flower (*Linnaea borealis*) in Pennsylvania' by Thos. C. Porter, 'Naturalized Compositæ' by Frank Dobbin, an extensive list of 'Plant Names of the Southwestern United States' by Myrtle Zuck Hough and 'The Southwestern Limit of *Juniperus Sabina*' by E. J. Hill. In the supplement, under 'The Families of Flowering Plants,' Charles Louis Pollard treats of the orders Scitamineæ and Microspermæ.

THE first article in *Bird Lore* for October is on 'The Bower-birds of Australia' by A. J. Campbell, illustrated with some fine photographs of the bowers of these interesting birds. Captain Gabriel Reynaud gives the second and concluding part of his article on 'The Orientation of Birds' concluding that the power to return over long distances is due to the sense of direction located in the semi-circular canals. Mrs. Henry W. Nelson tells, with illustrations of 'A Pair of Killdeer' and Thos. H. Montgomery, Jr., describes 'The Bird Course at the Marine Biological Laboratory, Woods Holl, Mass., during the summer of 1900,' the main aim of the course being to present suggestions as to lines of work. In the section 'For Young Observers' Alick Wetmore gives an interesting sketch entitled 'My Experience with a Red-headed Woodpecker' and in the 'Notes' Caroline G. Soule relates an experiment tried by her of attaching a painted paper flower, con-