SCIENCE.

Vol. XVII. No. 427

and, instead of holding twenty-fourth rank in education, she will soon take a place in the front, if not in the lead.

The institution has experienced steady growth ever since it was founded. The number of students has increased, and new buildings have been erected for their accommodation. The last one was built in the fall of 1890, and is devoted exclusively to veterinary medicine and science. The new chemical laboratory, dedicated last month, is constructed according to the latest improved plan, and students have the best opportunities for study in all branches of chemistry. In the botanical laboratory is found specimens of plant-life from many parts of the world, and several herbariums both of our own flora and many plants from other countries.

In the mechanical laboratory is found tools and power for the various branches of mechanical art. The physical and electrical laboratories are supplied with the necessary appliances and apparatus for those studies.

The departments of physiology, geology, and zoölogy are in the main building, and are as well equipped as the former circumstances would allow. Students are encouraged, in the natural sciences especially, to original and independent investigation; and to facilitate this, excursions are made to places of especial geological, botanical, or entomological interest. In connection with the university is a biological club, consisting largely of professors and students who are doing advanced work in biology.

Among the many needs of the institution may be mentioned a hall for military drill, a fire-proof building in which to place the valuable geological and botanical museums and the library, more class-rooms, and better equipment in all departments. Other departments will be added to the institution, whose needs, with those of the present departments, will be well supplied; for the aggregate support is now adequate to a great institution, which Ohio State University is destined to be. E. E. BOGUE.

Columbus, O., April 3.

#### BOOK-REVIEWS.

Mixed Metals, or Metallic Alloys. By ARTHUR H. HIORNS. LOndon and New York, Macmillan. 12°. \$1.50.

In this serviceable and timely volume Mr. Hiorns not only brings his subject up to date, but deals with it in a manner well adapted to the requirements of students and practical men. In these particulars he has followed the same methods used by him in his previous works in the same line, - "Elementary Metallurgy." "Practical Metallurgy," and "Iron and Steel Manufacture." We wish, though, he had omitted the first clause of his title. "Mixed metals," no matter how common the term may be in the metal trade, cannot fairly be considered as equivalent to "metallic alloys:" in other words, a true alloy is not a mere mixture of metals. Aside from this, there is no fault to find with the book.

Publications received at Editor's Office, March 30-April 4.

- CAMMANN, D. M. The Physical Diagnosis of the Diseases of the Heart and Lungs and Thoracic Aneurism, New York, Putnam. 188 p. 16°. \$1 25
- \$1.25.
   Navirs, T. A. Am I Jew or Gentile? Read and see.
   New York, E. H. Coffin. 87 p. 16°.
   FLUGEL, F. A Universal English-German and German English Dictionary. Vol. I. Part 1. Braunschweig and New York, Westermann. 192 p. 48. \$1.00.
- \$1.00.
  KNOFLACH, A. A Sound-English Primer. New York, Stechert. 68 p. 12°.
  LANKESTER, E. R. Zoological Articles contributed to the "Encyclopædia Britannica," etc. Edin-burgh, Black; New York, Scribner. 195 p. 4°.
- \$5.00.
  MAXWELL, W. H. Advanced Lessons in English Grammar. New York, Cincinnati, and Chicago, Amer. Book Co. 237 p. 12°. 60 cents.
  NEWSDEALER'S and Publisher's Bulletin. Vol. I., No. 1. March 2, 1891. New York, Newsdealer's and Publisher's Bull. Pub. Co. 24 p. 4°. \$1 per Troop.

- year. QUACREMBOS, J. D., and others. Appletons' School Physics. New York, Cincinnati, and Chicago, Amer. Book Co. 544 p. 12°. \$1.20. SMTTHSONIAN INSTITUTION, Annual Report of the Board of Regents of the, showing the Operations, Expenditures, and Condition of the Institution to July, 1889. Washington, Government. 815 p. 8
- U. S DEPARTMENT OF AGRICULTURE. Proceedings of the Seventh Annual Convention of the Asso ciation of Official Agricultural Chemists held at the U. S. National Museum, Aug. 28, 29, and 30, 1890. Washington, Government. 238 p. 8°.

A SYSTEM OF EASY LETTERING. By J. H. CROMWELL, Ph.B.

Twenty six different forms of Alphabets. The space to be lettered is divided into squares. and with these as a guide the different letters are drawn and inked. *Price*, 50 cents, postpaid. E. & F. N. SPON, 12 Cortlandt Street, New York.

## SCIENCE CLUBBING RATES 10% DISCOUNT.

We will allow the above discount to any subscriber to Science who will send us an order for periodicals exceeding \$10, counting each at its full price.

N. D. C. HODGES, 47 Lafayette Place, N. Y.

### Old and Rare Books.

BACK NUMBERS and complete sets of leading Mag-azines, *Rates low*, AM, MAG, EXCHANGE, Schoharie N V



PUBLISHED EVERY FRIDAY.

\$1.00 for Four Months. \$3.00 per Year.

\$3.00 per Year. \$1.00 for Four Months. THE WEEK has entered on its EIGHTH year of publication, greatly improved in every respect, rendering it more worthy the cordial support of every one interested in the maintenance of a first-class literary journal. The independence in politics and criticism which has characterized THE WEEK ever since its first issue will be rigidly maintained; and unceasing ef-forts will be made to improve its literary character and increase its attractiveness as a journal for the cultured home. Many new and able writers are now, or have promised to become, contributors to its columns, and the constant aim of the Publisher will be to make THE WEEK fully equal to the best literary journals in Britain and the United States. As heretofore, PROF. GOLDWIN SMITH will, from time to time, contribute articles. London, Paris, Special Ottawa Letters will appear at regular intervals. THE WEEK heing the same size as "Harper's

- Special Otawa Denois and appendix of the second sec Weekly," continent.
  - SEND FOR FREE SAMPLE COPY

C. BLACKETT ROBINSON, Publisher. 5 Jordan St., Toronto, Canada.

### THE **AMERICAN GEOLOGIST FOR 1891** AND BIEN'S NEW ATLAS OF THE METROPOLI-TAN DISTRICT,

will be given to New Subscribers to the GEOLOGIST for \$25.00 (which is the regular price of the Atlas alone), if ordered through the GEOLOGIST.

For other premiums see the GEOLOGIST for Nov., Dec., and Jan. Address

THE GEOLOGICAL PUBLISHING COMPANY, Minneapolis, Minn.

### 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,

Crawfordsville, Ind.

SERIES IN Philology, Literature and

Publications of the University of Pennsylvania.

Archæology.

Vol. I. now ready

- 1. Poetic and Verse Criticism of the Reign of Eliza-beth. By Felix E Schelling, A.M., Assistant Professor of English Literature. \$1.00.
  - A Fragment of the Babylonian "Dibbarra" Epic. By Morris Jastrow, Jr., Ph.D., Professor of Arabic. 60 cents.
- a. Hoós with the Accusative. b. Note on a Pas sage in the Antigone. By William A. Lamberton, A.M., Professor of the Greek Language and Lit-erature. 50 cents.
- The Gambling Games of the Chinese in America. Fán tán and Pák köp piú. By Stewart Culin, Secretary of the Museum of Archæology and Palæontology. 40 cents. 4.

#### In preparation.

- The Terrace at Persepolis. By Morton W. Easton, Ph.D., Professor of Comparative Philology. An Aztee Manuscript. By Daniel G. Brinton, M.D., Professor of American Archæology and Linguis-

Professor of American Archæology and Linguistics.
A Monograph on the Tempest. By Horace Howard Furness. Ph.D., LL.D.
Recent Archæological Explorations in New Jersey. By Charles C. Abbott, M.D., Curator of the American Collections.
Archæological Notes in Northern Morocco. By Talcott Williams, A.M., Secretary of the Museum of Egyptian Antiquities.
a. On the Aristotelian Dative. b. On a Passage in Aristotie's Rhetoric. By William A. Lamberton, A.M., Professor of the Greek Language and Literature.
A Hebrew Bowl Inscription. By Morris Jastrow, Jr., Ph.D., Professor of Arabic.
The Life and Writings of George Gascoigne. By Felix E. Scheling, A.M., Assistant Professors and others connected with the University of Pennsylvania, will take the form of Monographs on thes subjects of Philogy, Literature, and Archæology, whereof about 200 or 250 pages will form a volume. The price to subscribers to the Series will be \$1.50 per volume; to others than subscribers, \$2.00 per volume.

ber volume; to others than subscribers, \$2.00 per volume. Each Monograph, however, is complete in itself, and will be sold separately. It is the intention of the University to issue these Monographs from time to time as they shall be pre-pared

pared Each author assumes the responsibility of his own

contribution.

N. D. C. HODGES,

47 Lafayette Place, New York, N. Y.

**BOOKS: How to get them.** If there is any book or pamphlet that you want, write to the Science Book Agency, 47 Lafayette Place, New York.

Much yet remains to be learned on the subject of which it treats; but that which is already known, or at least the essential or available part of it, is lucidly presented.

The author takes up the subject of alloys where ordinary metallurgical treatises finish with it, and goes at once into the practical side of it, including the various uses to which the alloys are put. He also gives a brief account of the properties of the separate metals, and of the effects of certain elements upon them. Commercial metals are not chemically pure; and as the presence of impurities often produces characteristic results, which may be a useful guide, this part of the book will have a special value to manufacturers. A short account of chemical terms and principles is given for persons not familiar with chemical processes.

### AMONG THE PUBLISHERS.

THE American Academy of Political and Social Science has just issued the fourth number of its Annals The volume just

issued deals with the "Genesis of a Written Constitution," by Professor Morey of Rochester; "Natural Law," by Professor Taylor of Michigan; "Compulsory Voting." by Mr. F. W. Holls of New York; and "The Wealth Concept," by Professor Tuttle of Amherst. Another article treats of economic instruction in Italy, and gives an account of the university system. The proceedings contain a discussion of the Original Package decision by Messrs. Budd and Wintersteen of the Philadelphia bar. In addition to the Annals, the American Academy of Political and Social Science issues from time to time supplementary volumes of interest to students of economics and politics. The first of these, the "History of Statistics," by Professor August Meitzen of Berlin, has just appeared.

209

- Heinemann of London announces a new volume dealing with the much-discussed Marie Bashkirtseff, entitled "The Social Life of Marie Bashkirtseff, being Extracts from her Letters and Journals, illustrated with Drawings and Studies."



SCIENCE.

N. D. C. HODGES, 47 Lafayette Place, New York.



# A NEW MONTHLY THE INTERNATIONAL JOURNAL OF MICROSCOPY AND NATURAL SCIENCE.

THE JOURNAL OF THE

POSTAL MICROSCOPICAL AND WESLEY NATURALISTS' SOCIETIES.

Edited by ALFRED ALLEN and Rev. WILLIAM SPIERS.

## **CONTENTS OF APRIL NUMBER:**

Notes on the Anatomy of the Cicindela-Sexguttata.

Infusoria, Protozoa, etc.-Practical Methods of Preparation. Birds' Nests and Plants on Telegraph Lines.

Aspect of the Heavens-April, 1891 A Protest against Indiscriminate Collecting.

Color Photography. Mason's Improved Oxy-hydrogen Lantern and Table Microscope.

Science Jottings.

nce Jottings. Cotton in the Holy Land. Cuba breaking in Two. Grafting Human Skin. Limit of Magnification for Photo-Micrography. Death of Dr. Brady, F.R.S. Condenser for the Microscope. Dormant Buds in Woody Dicotyledons.

- Examination of Infusoria.
- Examination of Drinking Water.
- The Annihilation of Smoke.
- Boiler-Cleaning. Cure for Lock-Jaw.

Collectors' Notes for April.

Correspondence.

Parasite in Vaucheria. Local Societies.

#### Reviews.

### \$1.75 Per Year.

PSYCHE. A Journal of Entomology, published monthly by the Cambridge Entomological Club. \$2.00 per year, \$5.00 per volume of three years. Volume VI. began in January, 1891. Back volumes for sale at \$5.00 each. Vol-ume I sold achain complete sets ume I. sold only in complete sets. N. D. C. HODGES, General Agent for the United States and Canada.

#### READY SOON. LABRADOR COAST. THE

A Journal of two Summer Cruises to that region; with notes on its early discovery, on the Eskimo, on its physical geography, geology and natural history, together with a bibliography of charts, works and articles relating to the civil and natural history of the Labrador Peninsula.

By ALPHEUS SPRING PACKARD, M.D., Ph.D. 8°, about 400 pp., \$3.50.

# FOSSIL RESINS.

### By CLARENCE LOWN and HENRY BOOTH.

This book is the result of an attempt to collect the scattered notices of fossil resins, exclusive of those on amber. The work is of interest also on account of descriptions given of the insects found embedded in these longpreserved exudations from early vegetation.

# SCIENCE.

### NEW BOOKS. JUST PUBLISHED. THE AMERICAN RACE: By DANIEL G. BRINTON, M.D.

A Linguistic Classification and Ethnographic Description of the Native Tribes of North and South America. This is the first at-tempt ever made to classify all the Indian tribes by their languages, and it also treats of their customs, religions, physical traits, arts, antiquities, and traditions. The work comprises the results of several years of study in this special field.

Price, postpaid, \$2.

# BY THE SAME AUTHOR. RACES AND PEOPLES.

**KAGLES AND PEUPLES.**"The book is good, thoroughly good, and will long remain the best accessible elementary ethnography in our language."—*The Christian Union.*"We strongly recommend Dr. Brinton's 'Races and Peoples' to both beginners and scholars. We are not aware of any other recent work on the science of which it treats in the English language."—*Asiatic Quarterly.*"His book is an excellent one, and we can heartily recommend it as an introductory manual of ethnology."—*The Monist.*"A useful and really interesting work, which deserves to be widely read and studied both in Europe and America."—*Brighton* (Eng.) *Herald.*"This volume is most stimulating. It is written with great clearness, so that anybody can understand, and while in some ways, perforce, superficial, grasps very well the complete field of humanity."—*The New York Times.*"Dr. Brinton invests his scientific illustrations and measurements with an indescribable charm of narration, so that 'Races and Peoples.' avowedly a record of discovered facts, is in reality a strong stimulant to the imagination."—Philadelphia *Public Ledger.*

"The work is indispensable to the student who re-quires an intelligent guide to a course of ethno-graphic reading."—*Philadelphia Times*. Drice postnaid. \$1.75.

### Price, postpaid, \$1.75.

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

An introduction to public consideration, from a non-medical point of view, of a con-dition 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 WINNIPEG COUNTRY:

# ROUGHING IT WITH AN ECLIPSE PARTY.

#### BY A. ROCHESTER FELLOW.

### (S. H. SCUDDER.)

With thirty-two Illustrations and a Map. 12°. \$1.50.

12°. \$1.50. "The story is a piquant, good-humored, entertain-ing narrative of a cance voyage. A neater, prettier, book is seldom seen."-*Literary World*. "This is a sprightly narrative of personal inci-dent. The book will be a pleasant reminder to many of rough experiences on a frontier which is rapidly receding."-*Boston Transcript*. "The picture of our desolate North-western terri-tory twenty-five years ago, in contrast with its civilized aspect to-day, and the pleasant features of the writer's style, constitute the claims of his little book to present attention."-*The Dial*.

## VOL. XVII. No. 427

# **Fact and Theory Papers**

. THE SUPPRESSION OF CON-SUMPTION. By GODFREY W. HAMBLETON, M.D. 12°, 40c.

The inestimable importance of the subject, the "The Inestimable importance of the subject, the eminence of the author, and the novelly of his work, all combine to render the little treatise worthy of special consideration. . . We heartly commend Dr. Hambleton's booklet, and wish there were more such works."-Editorial, Boston Daily Advertiser. "The monograph is interesting in style, scholarly, and well worthy of careful consideration. It is de-void of technical expressions, and can be easily read and digested."-Pharmaceutical Era.

and digested."—Pharmaceutical Era. II. THE SOCIETY AND THE "FAD." By APPLETON MORGAN, Esq. 120. 20 cents. "Mr. Morgan founds a sensible and interesting address upon a text furnished by a sentence from a young ladies' magazine; namely, 'Browning and Ibsen are the only really dramatic authors of their century."—New York Sun.

III. PROTOPLASM AND LIFE. By

111. PROTOPLASM AND LIFE. By C. F. (°OX. 12°, 75 cents. "To be commended to those who are not special-ists."-Christian Union. "Physicians will enjoy their reading, and find in them much food for thought"-St. Louis Medical and Surgical Journal. "Mr. Cox reviews the history of his subject with knowledge and skill."-Open Court. "It is of extreme interest."-Medical Age. "Worthy of a careful perusal."-Indiana Medica Journal.

"Worthy of a careful perusa'."—Indiana Medica Journal. "An interesting and popular account of the ten-dencies of modern biological thought."—Popular Science News. "All interested in biological questions will find the book fascinating."—Pharmaceutical Era. "The author displays a very comprehensive grasp of his subject."—Public Opinium. "Deserves the allocation of students of natural science."—Critic.

"Deserves the attention of students of natural science."-Critic. IV. THE CHEROKEES IN PRE-CO-LUMBIAN TIMES. By CYRUS THOMAS. 12°. \$1. Dr. Thomas has already presented to the public some reasons for believing the Cherokees were mound-builders, but additional evidence bearing on the subject has been obtained. A more careful study of the Delaware tradition respecting the Tal-legwi satisfies him that we have in the Bark Record (Walam Olum) itself proof that they were Chero-kees. He thinks the mounds enable us to trace back their line of migration even beyond their residence in Ohio to the western bank of the Mississippi. The object is therefore threefold: 1. An illust ation of the reverse method of dealing with prehistoric sub-jects; 2. Incidental proof that some of the Indians were mound builders; 3. A study of a single tribe in the light of the mound testimony. This work will be an important contribution to the literature of the Columbian discovery which will doubtless appear during the coming two years. "A valuable contribution to the question, 'Who were the mound-builders? "--New York Times. "Professor Cyrus Thomas undertakes to trace back the evidences of a single Indian tribe into the prehistoric or mound-building age."-N. Y. Sun. "An Interesting paper."-Christian Union. V. THE TORNADO. By H. A. HAZEN.

V. THE TORNADO. By H. A. HAZEN.

12°. \$1. "The little book is extremely interesting."-Bos-

"The little book is extremely interesting."-Bos-ton Transcript. "A book which will find many readers. The chapter on 'Tornado Insurance' is of interest to all property-holders in the tornado States."-Boston Herald. " 'The Tornado' is a popular treatise on an impor-tant province of meteorology, in which science, the author, Professor Hazen of the United States Signal Service, may be regarded as an expert."--Philadel-phia Ledger.

VI. TIME-RELATIONS OF MENTAL PHENOMENA. By JOSEPH JASTROW. 12°. 50°. "All students of psychology will find the book full of interesting facts. Professor Jastrow's good qual-tities as a thinker and as a writter are too well and too widely known to require comment."—Public Ominaon

too widely known to require comment."—Public Opinion. "A useful work for psychologists—as well as the general reader—by setting forth in brief and easily intelligible form the present state of knowledge in regard to the time required for the performance of mental acts."—The Critic.

VII. HOUSEHOLD HYGIENE. Bv

VII. HOUSEHOLD HYGIENE. By Mary TAYLOR BISSELL, 12°, 75 cents. "A sensible brochure."—Brooklyn Eagle. "Practical and sensible."—Public Opinion. "The advice and excellent Information which it contains are tersely and intelligently expressed."— Boston Medical and Surgical Journal "Practical and simply written."—Springfield Re-nublican.

"The best monograph on home hygiene."—St. Louis Globe-Democrat.

In Preparation.

VIII, THE FIRST YEAR OF CHILD-HOOD. By J. MARK BALDWIN.

N. D. C. HODGES, 47 Lafayette Place, New York.