

Absolute Measurements in Electricity and Magnetism. By ANDREW GRAY. 2d ed. London and New York, Macmillan. 16°. \$1.25.

THE first edition of this work was published in 1884. It consisted mainly of papers which had previously been contributed to the columns of *Nature* by Professor Gray, together with such alterations and additions as he deemed advisable to make in order to render the book more generally useful. While it made no pretensions to being a complete or exhaustive treatise on the subject, it gave, as far as its limits admitted, a clear account of the present system of absolute units of electrical and magnetic measurements, as well as of some methods and instruments by which the system may be applied in theory and in practice.

Something over a year ago the first volume of a more comprehensive treatise on the subject, by the same author and publishers, made its appearance, which, together with the second volume now in preparation, it was intended would supersede the original small work, then out of print. But Professor Gray found that a demand still existed for the original work, or for one similar to it; and the present edition, amplified and brought down to date, is the result. In it are incorporated a few parts of the larger work, which add much to its value.

Among the many additions to the present work may be mentioned a fuller account of the determination of the horizontal component of the earth's magnetic field; a description of Sir William Thomson's standard electrical instruments; a more complete treatment of the graduation of instruments; an extension of the theory of alternating machines, including Dr. Hopkinson's theory of the working of alternators in series and in parallel, and additional information regarding the measurements of activity, etc., in the circuits of alternators; and a chapter on the theory of dimensions of physical quantities. In the last-named chapter the author takes the view that the dimensions of the electric and magnetic inductive capacities should be left undetermined, and regarded as so related as to render the dimensions of every physical quantity the same in the electro-static as in the electro-magnetic system of units.

A Handbook of Florida. Part I. Atlantic Coast. By C. L. NORTON. New York, Longmans. 16°. 50 cents.

WE are so accustomed in this country to the most trashy kind of guide-books, that it is positively refreshing to find in this first part of what is to be a guide-book of the whole of Florida a book containing the very information a traveller needs, told in plain, straightforward English. Why the majority of American guide-books are so worthless is not so plain, unless it is that there is, or has been, but little demand for any, not to say the best. But it is certain that the plan of setting the ordinary reportorial talent at work in "writing up" our places of interest does not result in any very intelligible descriptions. Mr. Norton's book is a model, and can be commended to those interested, and to those likely to inflict guide-books of another stripe upon the travelling community.

The whole work is not published as yet, but the other parts are promised to be ready soon.

AMONG THE PUBLISHERS.

AT this time, when the works of Jean François Millet are being much discussed, readers will be interested in the announcement of two articles upon Millet, his companions and friends. The May *Scribner* will contain the first of these articles upon the artist's life at Barbizon. The author, Mr. T. H. Bartlett, who has been long a resident of Barbizon and an admirer and student of Millet's work, has incorporated many unpublished letters of Millet, and has furnished a great wealth of new material for illustrating the articles abundantly.

—The following extract is taken from a letter written from Cairo, Egypt, recently received from Mr. Henry M. Stanley, about his forthcoming book: "I believe the work will be in two volumes, from 450 to 500 pages each. God knows there is matter enough, but I would wish to deal very lightly with the

whole from Zanzibar to Yambuya, that the book might be of as high interest as the main theme. . . . I have six note-books filled with matter extremely interesting. Three long chapters are already written. I have a number of most interesting photographs of scenery, sketches of incidents, scenery, etc., and maps will be a prominent feature. I hope it will be ready in May."

—The ninth part of the current series of Edwards's "Butterflies of North America" (Boston, Houghton, Mifflin, & Co.) is fully up to the average standard. The first plate is given up to species of *Argynnis*, the females of two Western species being for the first time figured; while the early stages of our common Eastern *A. aphrodite* are admirably illustrated, every stage of the caterpillar having a colored figure. Only the earliest stage is given by Scudder. Edwards makes the interesting statement that protection is sought at pupation by constructing a tent,—a feature not before observed in this genus. The second plate illustrates the Southern *Satyrus pegala*, but only the butterfly; and the third, *Erebia Epipsodea* of the Rocky Mountains. Heretofore our knowledge of the transformations of any species of this genus, abundant in parts of Europe, has been most meagre, but here we are treated to a plate full of exquisite details, leaving nothing to be desired; and this when the insect had to be obtained from points thousands of miles away, and sent five hundred miles again to the artist. We are equally amazed at the enterprise and the success of the author. The chrysalis was found to pupate in an inclined position, head upward, in a clump of grass whose blades were fastened by a few threads, forming a rude kind of cocoon. The spines of the cremaster are without hooks. Illustrations of the transformations of other satyrids are promised in the present volume; and Mr. Edwards hopes to show that this group should be placed at the bottom, and not at the top, of the butterflies,—not an easy task when he has to ignore the fundamental structure of the final stage. This excellent iconography, which has appeared at intervals ever since 1868, surpasses in the excellence of its illustrations any heretofore attempted or now publishing; and it is strange indeed that the entomologists of Europe have not been spurred by its excellence to some sort of rivalry in illustrating the histories of their native species. They have nothing which can in any way approach it, and yet the cost of work of this class is far cheaper in Europe than with us. Mr. Edwards's enterprise should be well sustained.

—According to a circular lately issued by the Geological Survey of Arkansas, we learn that an act of the Legislature directs that the reports of the State Geological Survey, with the exception of certain specified copies, shall be sold by the secretary of state at the cost of printing and binding. The reports thus far issued, and their prices, are as follows: "Annual Report for 1888, Vol. I., Geology of Western Central Arkansas," by mail, one dollar; "Vol. II. South-west Arkansas," one dollar; "Vol. III. Coal," seventy-five cents. They may be had by addressing Hon. B. B. Chism, secretary of state, Little Rock, Ark. Reports are being prepared, and will be issued as soon as possible, on the following topics: 1. Kaolins, clays, and clay shales; 2. Complete report on the coal of the State; 3. Manganese; 4. Marbles and limestones; 5. Novaculites; 6. Crystalline rocks; 7. Washington County; 8. Crowley's Ridge; 9. Miscellaneous reports.

—Mention has been made from time to time of the topographical map of Massachusetts, the plan of joint work by the State and the United States Geological Survey, the Greylock map issued by the Appalachian Mountain Club, and the general map of the State of recent date, all having been described in our columns. There is now to be added a "map of the country about Boston," again issued by the Appalachian Club, a very welcome addition to our local cartographic material. It is printed from the stones that will be used in the final issue of the map for the State, the scale being 1:62,500, with brown contours every twenty feet. We are glad to note that it comes from the lithographic establishment of George S. Harris & Sons of Philadelphia; and from this it may be inferred that the number of houses capable of doing this sort of work in our country is increasing, and that the

deserved monopoly that prevailed some years ago in map-engraving can no longer be so described. The map is a handsome piece of work, and will serve as an excellent basis for scientific work about Boston and Cambridge. It can be obtained of W. B. Clark & Co., Washington Street, Boston, sales-agents for the Appalachian publications.

— James J. Chapman, Washington, will publish March 25 the second volume of Gen. V. Derrécaix's work on "Modern War," translated by Lieut. C. W. Foster, U.S.A. This volume will treat of the grand tactics, illustrating tactics of the march, manoeuvre marches, combats, battles (important modern combats and battles given in illustration), pursuits, and retreats.

— Little, Brown, & Co. have in preparation "Myths and Folk-Lore," by Jeremiah Curtin; the fifth and final volume of Palfrey's "History of New England," from the author's manuscript by his son, with full index to the complete work; "The Way Out of Agnosticism, or, The Philosophy of Free Religion," by Frances Ellingwood Abbot, author of "Scientific Theism;" and "The Influence of Sea Power in History," by Capt. A. T. Mahan, U.S.N., an important historical work, showing the great power and influence developed by naval forces.

— Professor John Henry Comstock begins in the *New York Ledger* of March 1 a series of six articles on the study of insects, in which he describes not only those insects which are useful to the farmer, but also those which destroy entire fields of grain, cotton, and rice, and ravage orchards, gardens, and vineyards. He demonstrates how it was scientifically determined that an average annual loss of \$30,000,000 has been occasioned in the South by the cotton-worm alone; and that an average loss per year of nearly \$2,400,000 has been brought about in the apple-crop of Illinois by the ravages of the codling-moth. The series is illustrated.

— "American Whist Illustrated," by "G. W. P.," has just been published by Houghton, Mifflin, & Co. It is needless to say that this is a book for whist-lovers. The dedication to "The players of whist who study the game" seems to hint that no scoffers need expect even a nod of recognition if they were to be so bold as to intrude themselves upon the sacred band of whist lovers who will doubtless peruse the pages of "American Whist Illustrated." That many will read is sure from the fact that many have carried away and read the dozen and more editions of "American Whist" and "Whist Universal," from a union of which the present volume is the result.

— Lippincott's series of school readers are likely to attract attention. "The Third Reading-Book," by Eben H. Davis, has just been issued. The book introduces its users to the writings of the most popular authors of juvenile literature, many of the leading publishers having granted the use of copyright matter. The well-drawn pictures for language exercises are a novel feature.

— E. & F. N. Spon have issued an "Engineers' Diary and Reference Book, for Engineers, Machinists, Contractors, and Users of Steam." It is a neatly bound volume of 150 quarto pages, alternate leaves being left blank and ruled for writing. Among its contents are many reference-tables of weights, measures, money, and wages; coal and iron trade statistics; recent legal decisions interesting to engineers; an index of recent technical literature; recent papers presented to Parliament relating to canals and railways, mining, explosives and fires, shipping, sanitation, etc.; reports of the Board of Trade and mercantile marine; and a list of engineering and allied societies. Though the book is prepared with special reference to the needs of engineers in Great Britain, it contains much that will interest those on this side of the water.

— In *Babyhood* for February is described a recently discovered means of relieving whooping-cough, which is purely mechanical, and seems worthy of trial by mothers and intelligent attendants. Another medical article which will interest parents is that on "A Diet Disease," by Dr. James H. Young, in which the results of the injudicious feeding of infants are brought out. Color-blindness, and the means of detecting and treating the defect, form the subject of an article by Dr. C. H. May.

— Messrs. E. & F. N. Spon announce a second edition, revised, of "Naturalistic Photography," for students of the art, by P. H. Emerson; "Mechanical Graphics," a second course in mechanical drawing, with preface by Professor Periy, arranged for use in technical, and science and art schools, and colleges, by George Halliday; and a second edition of "Aid Book to Engineering Enterprise," by Ewing Matheson.

— The following are the contents of No. 6 of the fourth volume of "Studies from the Biological Laboratory," issued by the Johns Hopkins University, Baltimore: "On the Morphology of the Compound Eyes of Arthropods," by S. Watake; "On the Anatomy and Histology of *Cymbuliopsis Calceola*," by J. I. Peck; "On the Amphibian Blastopore," by T. H. Morgan; and "On a New Actinia, *Hoplophoria Coralligena*," by Henry V. Wilson.

— Messrs. D. Appleton & Co. have just issued a book entitled "Exercises in Wood-Working, with a Short Treatise on Wood," by Ivin Sickels. These exercises were prepared originally for students of the College of the City of New York, as long ago as 1883. From time to time they were modified as the author gained in experience, and now they are published, that those who are interested in manual training may have the benefit of this course that for five years has proved itself satisfactory. But it is not to be supposed that this is solely a treatise on the handling of wood-working tools: the structure of wood is described, and a very large amount of space is given to the methods of seasoning wood, to the age of trees and their decay, to the measure and value of wood, and to the diseases and insect enemies of wood.

— Three volumes in the Romance of Science Series have recently been published by the Society for promoting Christian Knowledge, whose agents in New York are Messrs. E. & J. B. Young & Co. The smallest of these is "The Story of a Tinder-Box," by Charles Meymott Tidy. Mr. Tidy originally told this story in a course of three lectures to young people at the London Institution during the Christmas holidays of 1888-89. They are profusely illustrated by experiments that are sure to be suggestive to teachers in this country. "Time and Tide" is the title given by Sir Robert S. Ball to his number of the series, which contains the substance of two lectures before the London Institution. That this is a subject extremely difficult to handle without mathematics, goes without saying; but it can be said that the illustrious author acquits himself with due honor. The people of not so many years ago believed that our moon was a new creation each month; but, while this extreme view can no longer be held, there are many happenings to our moon that will in time relieve it from an everlasting service upon the earth. Of these happenings the author tells, and he likewise tells of the interesting discoveries that have been made of the doings of the satellites of other planets. "The Diseases of Plants," by H. Marshall Ward, the third of the number to which we referred, is not on so popular a subject as the other two, and naturally refers especially to conditions as they are in England. But, since plant-diseases are only too glad to migrate, it may well be that the instruction of this book may not be profitless here.

— Cassell & Co. will publish shortly "Star Land," a series of talks on astronomy with young people, by Robert S. Ball.

— Sir William Thomson of Glasgow University, the great European authority on electricity, has an article in the February number of *The North American Review* on "Electric Lighting and Public Safety," showing the methods adopted in Europe to guard against the dangers of electric lighting. Mr. T. A. Edison's article on this subject appeared in the November number of the *Review*, and Mr. George Westinghouse's in the December number. Among other brilliant contributions in the February number are "The Gladstone-Blaine Controversy," by Hon. R. Q. Mills; "Italy and the Pope," by Gail Hamilton; "The Doctrine of State Rights," by the late Jefferson Davis; "A New View of Shelley," by "Ouida;" "Newspapers Here and Abroad," by E. L. Godkin; "British Capital and American Industries," by Erastus Wiman; "The American Bishop of To-day," by the

Rev. J. H. Ward; "Final Words on Divorce," by Margaret Lee and the Rev. P. S. Moxom, D.D.

— The special topic in the annual report of the United States commissioner of education for the year 1887-88 is manual and industrial training. The commissioner, Mr. Dawson, is not a partisan in favor of or against the system, but presents the views and arguments of leading educators on both sides. He also gives some account of the history of manual training both in this country and in Europe, and then furnishes an outline of the courses of manual exercise that have been adopted in various places, with the comments of teachers and observers on their effect. This account of manual training occupies a hundred pages of the report, and contains a good deal that will be interesting to students of the subject. Another topic to which considerable attention is given is the training of teachers in normal schools and elsewhere, and there is also some account of the recently established teachers' reading circles. Brief abstracts of the various State reports are also given, with the usual variety of statistical matter.

— The prize offered by Mrs. John Armstrong Chanler ("Amélie Rives"), through the American Economic Association, for the best essay on the subject of child-labor, has been awarded to Mr. William F. Willoughby and Miss M. C. de Graffenreid, both of Washington, D.C. The prize was equally divided between the two contestants, their essays being of equal merit. Mr. Willoughby is a native of Alexandria, Va. He was graduated at the Washington High School, received the degree of A.B. in June, 1888, at the Johns Hopkins University, where he was awarded an "Honorary Scholarship" for three successive years, and is now a resident of Washington, D.C. Miss M. C. de Graffenreid comes of an old Southern family, she herself being a native of Georgia. She holds a position in the Department of Labor, and had a large share in the compilation of the "Fourth Annual Report of the Commissioner of Labor," on the subject of working-women, having interviewed personally eighteen thousand workmen in different parts of the country. A paper written by her on "The Needs of Self-Supporting Women" has recently been published as a supplementary note to "Johns Hopkins University Studies in Historical and Political Science."

— Among the new publications of the J. B. Lippincott Company are: "Works of William H. Prescott," a new library edition, edited by J. Foster Kirk, illustrated with portraits and maps. Through his long association with Prescott, to whom he acted as assistant in the preparation of the original edition, Mr. Kirk was enabled to incorporate in the revised work all the material collected by this celebrated historian. He has verified doubtful references, corrected typographical errors, and occasionally appended a note when statements appeared to need authentication. "Elements of Plane and Spherical Trigonometry," by Edwin S. Crawley, assistant professor of mathematics in the University of Pennsylvania. In the preface it is stated that "the aim of the author in this treatise has been to present to the student, in as concise a form as is consistent with clearness, that portion of the subject of trigonometry which is generally given in a college course. The first part of the subject is presented in much detail, each point being emphasized as far as possible by means of numerous examples and illustrations. Farther on, the student is thrown more upon his own resources, with the object of developing in him the power of making intelligent use of the materials furnished by the previous part of the course. An appendix is added in which is collected, in a manner convenient for reference, a list of such formulæ as the student will find most useful in his subsequent work in mathematics." "International Atlas of Rare Skin Diseases," edited by Malcolm Morris, London; P. G. Unna, Hamburg; H. Leloir, Lille; and L. A. Duhring, Philadelphia. This work, a periodical publication consisting of two or more parts per year, will contain the most recent and rare cases of skin-diseases that have come under the observation of the leading dermatologists of the world, thus presenting to the practitioner the most reliable information on the subject. The illustrations are chromo-lithographs. The text is rendered in English, French, and German. "The Principles

and Practice of Surgery" (second edition, thoroughly revised, with additions), a treatise on surgical diseases and injuries, by D. Hayes Agnew, professor of surgery in the medical department of the University of Pennsylvania. The order of subjects has been somewhat changed from that followed in the earlier work, and much new material has been added. Certain chapters have been transposed, others have been partly rewritten, and all have been carefully revised and illustrated. The author has embodied in the present treatise whatever by observation and experience appeared to him worthy of professional confidence, and hence it represents the most approved knowledge of the day as embraced in the science and art of surgery. His teachings as well as his practice are characterized by a humane conservatism, and show a higher regard for the welfare of the patient than for a reputation for brilliant and heroic operations. A safe practitioner, he is notably a prudent counsellor. "Foods for the Fat," a treatise on corpulency, and a dietary for its cure, by Nathaniel Edward Davies, member of the Royal College of Surgeons, England, author of "Aids to Long Life," "Medical Maxims," "Nursery Hints," etc. "Conversation on Mines between a Father and Son," to which are added questions and answers to assist candidates to obtain certificates for the management of collieries, a lecture on the atmosphere and explosive gases, table of calculations, rules of measurements, etc., by William Hopton, being a reprint from the eighth English edition. This plain and unpretentious little book has had a remarkable history. Its author determined in 1864 to issue the work chiefly as a handbook for the use of operatives and laborers in coal-mines. It filled exactly a want of the times, and from the very outset the work has had a marked success. Its language is so clear and plain that no man of ordinary native intelligence can fail to understand it. The following subjects are clearly and intelligibly explained: how mines generate gases; how the weather on the surface of the earth affects the workings of a mine; the power of explosions, and how to diminish it, etc.

— Two Americans contribute to the February *New Review*. — Mr. James and Miss Harriet W. Preston; Mr. Hamilton Aide discusses the "Deterioration of English Society;" and there is a paper on recent plays and books by Mr. L. F. Austin, Henry Irving's private secretary. Mr. Parnell is the subject of a trenchant but courteous character-study in the same number.

—"The Federal Constitution of Germany," by Edmund J. James (Philadelphia, University of Pennsylvania), a little monograph of forty-three pages, contains a translation of the text of the Federal Constitution of Germany, now for the first time made accessible to English readers. The work is of special value as showing how very different some federal governments are from others, and how accidental are some of the features of our own system which we have been accustomed to regard as essential. Alexander Hamilton argued a century ago that such a government as that of the present German Empire could not hold together, and yet there is no doubt that it is one of the strongest federal unions in existence. The constitution reveals it as a union which acts directly upon the states, and not upon the citizens of the states, like our own. It is well worth the study of American citizens. The next number in the series of publications on political economy and public law will contain the text of the Federal Constitution of Switzerland.

— John Ericsson, the great engineer, in a confidential letter written March 23, 1866, said, "The great importance of what I call the subaquatic system of naval warfare strongly presented itself to my mind in 1826; yet I have not during this long interval communicated my ideas to a single person, excepting Emperor Napoleon III. What I knew twelve years ago, he knows, with regard to the general result of my labors, but the details remain a secret with me. The 'Monitor' of 1856 was the visible part of my system, and its grand features were excluded from its published drawings and descriptions." Among Ericsson's papers were found, after his death, a series of autograph pencil-drawings, showing these concealed features of his "Monitor" system as originally conceived. They represent the ideas of subaquatic attack first presented in the "Destroyer" in 1878,

after being withheld from the public gaze by their author for half a century. These rude sketches will for the first time be made public, in facsimile, in *Scribner's* for March.

—Kirk Munroe, who has spent many winters among the Florida Seminoles, in his article for the March *Scribner*, describes the immense turban which is the universal masculine head-dress and distinguishing badge of that tribe.

—Professor William James of Harvard, in his article on hypnotism, entitled "The Hidden Self," in the March *Scribner*, says, "I know a non-hysterical woman who, in her trances, knows facts which altogether transcend her possible normal consciousness,—facts about the lives of people whom she never saw or heard of before. I am well aware of all the liabilities to which this statement exposes me, and I make it deliberately, having practically no doubt whatever of its truth. My own impression is that the trance condition is an immensely complex and fluctuating thing, into the understanding of which we have hardly begun to penetrate, and concerning which any very sweeping generalization is sure to be premature. A comparative study of trances and subconscious states is meanwhile of the most urgent importance for the comprehension of our nature."

—Horace Baker, who studied the subject carefully in Australia, will describe "The Blackfellow and his Boomerang" in the March *Scribner's*. "This curious and unique weapon," he says, "about which so much has been written and so little is really known, is a curved piece of wood, slightly convex on one side, and nearly flat on the other. It is cut from a natural bend or root of a tree, the hardest and heaviest wood being always selected, and its curve follows the grain of the wood. Thus it will vary from a slight curve to nearly a right angle, no two ever being the same shape. It is about three-eighths of an inch thick, and from two to three inches wide, tapering toward the ends, which are either round or pointed. The edge is sharpened all around, and the length varies from fifteen inches to three and a half feet."

—The March number of *The Chautauquan* presents among other subjects the following: "The Politics of Mediæval Italy," by Professor Philip Van Ness Myers; "The Archaeological Club at Rome," by James A. Harrison; "Roman Morals," by Principal James Donaldson; "Life in Mediæval Italy," by the Rev. Alfred J. Church; "Torquato Tasso," by Arlo Bates; "Traits of Human Nature," by the Rev. J. M. Buckley; "The Nationalization of Industry in Europe," by Franklin H. Giddings; "The Problems in the Physics of Photography," by Professor Edward L. Nichols; "Moral Teachings of Science," by Arabella B. Buckley; "English Politics and Society," by J. Ranken Towse; "Karl Marx," by Professor Charles J. Little; "Trusts, and How to deal with Them," by George Gunton; "Pan-American Congress," by the Hon. W. P. Frye; "The Woman Question in Germany," by Frau J. Kettler; "Common Sense as to Christian Science," by H. M. Dexter.

—Messrs. Ginn & Co. announce to be published in April, "Elements of Structural and Systematic Botany," for high schools and elementary college courses, by Douglas Houghton Campbell, Ph.D., professor of botany in the Indiana University. It is designed to serve as both a laboratory guide and an outline of the classification of the vegetable kingdom, based upon the results of the most recent and reliable authorities. To this end a number of typical plants have been carefully selected, and these studied in detail, with full directions for gathering or growing the specimens as well as for the study of their structure. This work is supplemented by a brief diagnosis of the group to which each plant belongs, with such descriptions or figures of related forms as will enable the student to recognize the common forms likely to be met with, as well as the relationships of the different groups of plants. Since the place to begin is the beginning, and the elements of botany do not consist in the "analysis" of a certain number of flowering plants, the lower plants are considered first, and at some length, as a preparation for the study of the more difficult structure of the ferns and flowering plants. This feature is especially commended to the attention of teachers as an aid in their work, as well as an incentive to the study of

these important forms, some knowledge of which is indispensable to an intelligent comprehension of any scientific classification of the plant kingdom.

—The Cassell Publishing Company, New York, announce three editions of the "Journal of Marie Bashkirtseff." The one they first issued at two dollars has been reduced to one dollar and a half; there is another in plainer binding at one dollar, and a third in paper at fifty cents. These editions are printed from the same plates; and the two former have the portrait and illustrations as in the original two-dollar edition, while the latter has the portrait only. Nothing has been "suppressed" in this translation of Mlle. Bashkirtseff's journal. Mrs. Serrano simply left out such parts as were uninteresting or trivial. The same firm also announce a new story by Judge Tourgee, under the title "Pactelus Prime." While dealing with a new phase of the race problem, the author slashes right and left at the pet follies of the time, and touches a good many people's self-complacency, who perhaps have little thought of being hit.

—P. Blakiston, Son, & Co., Philadelphia, will publish next week a new German-English medical dictionary, by Frederick Treeves, F.R.C.S., and Mr. Hugo Lang; "A Manual of the Practice of Medicine," by Frederick Taylor, M.D.; and a text-book on obstetrics, by Dr. F. Winckel (Munich), translated by Professor Edgar F. Smith of the University of New York.

—Last week's issue of *Garden and Forest* contains an interesting view of the entrance to Père-la-Chaise, the famous Parisian cemetery, and an illustration of a remarkable specimen of the beautiful blue orchid, *Vanda cœrulea*; Mr. William Watson of the Royal Gardens at Kew writes of cape heaths; and the duty of Congress to our public forests is discussed editorially. Among the contributors to this number are Professor Budd of Iowa, Herr Max Leichtlin, Charles A. Dana, and Mrs. Schuyler Van Rensselaer.

—The following new publications are announced by the J. B. Lippincott Co.: "A Text-Book of Assaying," for the use of students, mine managers, assayers, etc., by J. J. Beringer, lecturer to the Mining Association of, and public analyst for, the county of Cornwall; and S. C. Beringer,—a work that has been prepared to meet the existing want of a practical "handy-book" for the assayer. Aside from a description of those substances which have a commercial value, the work contains short accounts of the rarer elements, since they are frequently met with, and occasionally affect the accuracy of an assay. Under the more important methods, the results of a series of experiments showing the effect of varying conditions on the accuracy of an assay are given. This record will be of great value to students who, learning any particular process, cannot do better than repeat such a series of experiments. "Manual of Mythology in Relation to Greek Art," by Maxime Collignon, translated and enlarged by Jane E. Harrison, author of "Manual of Ancient Sculpture." The subject of this work is not mythology in general, but strictly mythology as seen in art. Literature is cited, but only in so far as it throws light upon the conceptions of art. All questions dealing with the origins of myths and their literary variations are of necessity set aside. A brief summary is first given of the general principles that govern the formation of types in art; and the development of the type of each god or goddess, genius or hero, is historically considered. The book is intended, in fact, to supplement, not to supersede, existing handbooks. "Manual of Ancient Sculpture," by Pierre Paris, formerly member of the Ecole Française at Athens; edited and augmented by Jane E. Harrison, author of "Introductory Studies in Greek Art," etc. "Crime: Its Nature, Causes, Treatment, and Prevention," by Sanford M. Green, author of "Green's Practice," etc. Of books in press, the firm announces "Stanley's Emin Pasha Expedition," by A. J. Wauters, with maps, thirty-four portraits, and illustrations; "Medical Diagnosis," a guide to the knowledge and discrimination of disease, by J. M. Da Costa, M.D.; "A Text-Book of Clinical Diagnosis: The Chemical, Microscopical, and Bacteriological Evidence of Disease," translated from the second edition, by James Cagney, with additions by William Stirling, professor of physiology, Owens College, Manchester; "Lippin-

cott's New Series of Readers," by Eben H. Davis, superintendent of schools, Chelsea, Mass. (complete in four books; the third and fourth readers in press); "How to Remember History," a method of memorizing dates, with a summary of the most important events of the sixteenth, seventeenth, eighteenth, and nineteenth centuries, for the use of schools and private students, by Virginia Conser Shaffer; "A System of Oral Surgery" (fifth edition, thoroughly revised, with important additions), being a treatise on the diseases and surgery of the mouth, jaws, face, teeth, and associate parts, by James E. Garretson, surgeon in charge of the Philadelphia Hospital of Oral Surgery, dean of the Philadelphia Dental College, etc.; "Chambers's Encyclopædia," Vol. V. (new edition), edited and published under the auspices of W. & R. Chambers, Edinburgh, and J. B. Lippincott Company, Philadelphia, to be completed in ten volumes; "Recollections," by George W. Childs; and "Historic Note-Book," by the Rev. E. Cobham Brewer, Trinity College, Cambridge, author of "The Reader's Hand-Book," "Dictionary of Phrase and Fable," etc.

LETTERS TO THE EDITOR.

Mock Sun.

THE train leaving Albany for Boston, in surmounting the hills east of the Hudson River, affords the traveller very beautiful views of the wide valley, the river, and a picturesque sky-

line formed by the bold and broken Helderbergs. On the evening of the 9th this view was enhanced in beauty by a superb sunset, having seemingly the double glory of two suns twenty degrees apart. It was not easy to determine the actual sun, so brilliant were both reality and counterfeit; but the mock sun, like many pretenders, overdid the thing a little, and assumed very gorgeous rainbow effects, that are not seen very near the royal original. It was north of the actual sunset.

The pretender was not, however, the often seen "sun-dog," which is ordinarily a scrap of rainbow color, but it had a luminous centre of golden refulgence, that was worthy of the orb of day; and, when seen by shutting off the sun with a shade, it made a centre of a brilliant sunset, really holding a court of its own.

This most attractive phenomenon, with varying changes, all wonderful, lasted for nearly half an hour, affording, in connection with the remarkable views, a very unusual union of terrestrial and celestial beauty. The change of our point of view was five or six miles as the train sped on; but the thin clouds upon which the colors were so lavishly embroidered were very far away, not showing perceptible change in position relative to the sun with that movement of the observer.

The same phenomena were simultaneously observed at Cazenovia, one hundred and ten miles due west, but there the sun's rival was seen south of the great luminary.

The next day was clear and fine at Cazenovia, but snowing at Boston, indicating that the frost crystals that masqueraded

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