

month, and in a few weeks decimated all the towns in the south of France. Although the Italian authorities on the boundaries between France and Switzerland attempted to stay the progress of the epidemic by imposing the most rigid system of quarantine of all persons and things from infected localities, the disease had passed all sanitary cordons before the end of August, and was numbering its victims daily by hundreds in various parts of Italy. Despite every effort of the health authorities, it crossed the Pyrenees early in 1855, and began the work of destruction in Spain. Before the close of the year it had counted more than a hundred thousand victims in that country. The year following (1886), a passenger-steamer with Italian immigrants landed the pestilence at Rosario, in South America. The *cordon sanitaire* established in the passes of the Andes by the States of the west coast of South America did not prevent the disease from reaching and ravaging many of the great cities and towns on the western coast. Sept. 23, 1887, and again in the month following, cholera sought to invade our country through Italian immigrants, as it had done in South America the year previous. The story of its advent, arrest, and destruction at quarantine, has been told in my report for 1887. In the five previous invasions of Europe by this disease during the present century, it had succeeded in every instance in reaching our shores, and developing into epidemic proportions. The failure of the pestilence to secure a foothold in our country last year was a triumph, but under difficulties such as the quarantine officials at this port, it is hoped, may not again be called upon to encounter."

Extensive repairs and improvements are now in progress at the quarantine establishment, which will, in the opinion of the health-officer, supply all the conditions necessary to secure the country from any possibility of an epidemic of infectious or contagious disease which may approach from the sea. For this purpose the Legislature has appropriated \$121,843. The disinfecting-rooms are thus described. The disinfecting-rooms are divided into three airtight compartments, with sides and ceilings made of four-inch oak plank covered with felt and galvanized iron, with doors and levers to each compartment; the outer walls of brick being built hollow so as to retain the heat. The floors are concrete and asphalt, on iron beams and masonry arches. The size of the disinfecting-rooms are two 14 by 19 feet, and one 12 by 19 feet, each 7 feet high. Each disinfecting compartment will be supplied with wire baskets supported on rollers, large enough to hold one immigrant's baggage, arranged in tiers with sufficient interspace to insure the admission of hot or moist steam with the least possible obstruction. The arrangement contemplates the use of moist steam for a few moments before the introduction of superheated steam. The introduction of moist steam first will secure the destruction of the disease germs by superheated steam more certainly and at less temperature, and thereby lessen the danger of injury of the fabrics exposed to a high temperature. In the boiler-room underneath will be placed exhaust-pumps with separate connections to each room, that the air can be exhausted; so that the articles to be treated may be easily penetrated by the moist steam, as well as other chemicals that may be used in the disinfecting process. The rooms, after being used, will be ventilated into a shaft surrounding the boiler-flue. The superheater will be located under the disinfecting-room, with all the necessary apparatus outside of the rooms, showing pressure and temperature.

In 1887 Dr. Smith recommended that a crematory be erected on Swinburne Island, for the cremation of those who die of contagious disease. This was deemed advisable on account of the unfavorable location of the burial-ground at Seguin's Point, near the extreme southern portions of Staten Island, and ten miles from the hospital. Twenty thousand dollars has been appropriated for the purpose, and the quarantine commissioners have been empowered to cause to be incinerated in such crematory the bodies of persons dying at the quarantine hospital from contagious or infectious diseases; provided, however, that "they shall not incinerate the bodies of any persons, dying as aforesaid, whose religious views as communicated by them while living, or by their friends within twenty-four hours after their decease, are opposed to cremation."

THE Eiffel Tower has now attained its full height of 984 feet.

BOOK-REVIEWS.

The Student's Atlas. By RICHARD A. PROCTOR. London and New York, Longmans, Green, & Co. 8°. \$1.50.

THE object of the present atlas is not to convey detailed information on the geographical conditions of limited areas, but to teach the relations between continents and oceans,—an important part of geography-teaching, which has hitherto been sadly neglected. The author says in his introduction, "In studying the geography of the earth as a whole, in considering the larger problems of geology, in reading history ancient and modern, in discussing problems relating to trade and commerce, and in dealing with many other subjects of inquiry, occasion constantly arises for the means of recognizing clearly and readily the relations of the different parts of the earth to each other. An ordinary atlas shows us Europe and it shows us North America, but it presents the two continents on different scales, and, except in the imperfect maps of the two hemispheres or the still more misleading Mercator's charts, it does not show how the two continents are situated with regard to each other. Of the Atlantic Ocean, which is almost as important and interesting a region of our earth as any continent, the ordinary atlas gives no map at all. Any one who wishes to note the nature and relative directions of the tracks across the Atlantic between different parts of the surrounding shores can learn nothing from an ordinary atlas except what is false and misleading. It is the same with all the oceans." For such reasons, which cannot be remedied in an ordinary atlas, the author considers it desirable to have a companion atlas, treating the earth as a whole. The plan the author has pursued is to divide the earth's surface on the twelve faces of a dodecahedron, each map being made to include the spherical surface circumscribing the pentagonal face of the dodecahedron. Thus each map embraces a little more than one-tenth of the earth's surface, and overlaps with the five neighboring maps, thus giving a good understanding of the relative position of the parts of the earth's surface. The projection chosen is Postel's equidistant projection, the centre of each pentagon being taken as the centre of the projection. This results in comparatively small distortion of scale and angle. The maps are well executed; the political divisions are designated by different colors. The topography is very sketchy. The course of ocean-currents is indicated,

AMONG THE PUBLISHERS.

THE Century Company have just completed their monumental work on the "Battles and Leaders of the Civil War." An index to the four volumes is appended to the thirty-second and final part. In concluding this handsome and valuable work, the publishers may justly feel proud of the achievement.

—C. W. Bardeen, Syracuse, N.Y., will publish May 15 an interesting historical guide-book entitled "Carleton Island in the Revolution: the Old Fort and its Builders," with notes and brief biographical sketches, and illustrations by Carleton.

—Belford, Clarke, & Co. will publish shortly William H. Herndon's "Life of Abraham Lincoln." Mr. Herndon was for some years the law-partner of Abraham Lincoln, and knew him perhaps as intimately as any person apart from his immediate family.

—The M. L. Holbrook Company have just ready "Studies of the Outlying Fields of Psychic Science," a work by Hudson Tuttle, who aims to explain the vast array of facts in his field of research by referring them to a common cause, and furnishes nearly fifty pages of "personal experience and intelligence from the sphere of light."

—People who are interested in the prohibitory amendment which is now before the State of Massachusetts for popular vote, will find a concise statement of the entire legislation in recent years in "Ten Years of Massachusetts," by Raymond L. Bridgman, published by D. C. Heath & Co. of Boston. It includes the years 1878 to 1887; and among other important enactments of that period, are the civil damage law, the screen law, the schoolhouse law, and the temperance text-books law. Every new effort of the State to repress liquor-selling is mentioned, and the text of the most important passages is given *verbatim*.

—Harper & Brothers have just ready "Further Reminiscences," a second volume of "My Autobiography and Reminiscences," by W. P. Frith, the distinguished Royal academician. The interest of the new volume upholds the reputation gained by the first. One chapter contains letters and recollections of Charles Dickens; another recalls Sir Edwin Landseer; still another, devoted to Mrs. Maxwell, whom novel-readers perhaps know better as Miss M. E. Braddon, tells, among other things, about the plan she proposed to Mr. Frith for a pictorial dramatic series on the lines of Hogarth, and how the artist shrank from the painfulness of the "terrible tragedy" which she outlined. Du Maurier and John Tenniel, the famous *Punch* artists, figure in a chapter on "Book Illustrators;" and a host of other familiar names appear elsewhere, such as Robert Browning, John Ruskin, Thomas Hardy, Mrs. Lynn Linton, F. Anstey, and Anthony Trollope. They have also just ready the third edition, revised and enlarged, of C. K. Adams's "Manual of Historical Literature;" "The Mouse-Trap and Other Farces," by W. D. Howells, including among the other farces, "The Garroters," "Five O'clock Tea," and "A Likely Story," all of which, as well as "The Mouse-Trap," C. S. Reinhart has illustrated. Another book just ready is "The Tramp at Home" (illustrated), by Lee Meriwether, special agent of the Bureau of Labor Statistics at Washington, and author of "A Tramp Trip." The book contains an account of the incidents, amusing and otherwise, which befell him in the course of his study into the condition of the American working classes. Adventure, novel experience, and humorous episode are combined with original and striking testimony bearing upon social problems in the United States.

—We take the following items from *The Publishers' Weekly*: M. Taine's health has sufficiently improved to permit him to resume his literary work, and it is said that a series of three articles by him, on "The Reconstruction of France in 1800," will appear

at once in the *Revue des Deux Mondes*. F. Marion Crawford is writing a book on Sir John Hawkwood for the English Men of Action Series. Mr. Walter Besant will prepare the volume on Capt. Cook; Mr. Clark Russell, that on Dampier; and Mr. Archibald Forbes, that on Havelock. Andrew D. Mellick, jun., Plainfield, N.J., has in preparation a work to be entitled "The Story of an Old Farm, or, Life in New Jersey in the 18th Century," a semi-social, semi-historical study. The author intends to describe quite fully early German immigration to the American colonies, to vindicate the Hessian troops, and to do justice to the New Jersey Loyalists.

—Mr. Thomas S. Townsend of New York City has been at work since the beginning of the civil war, collecting, sifting, and classifying material, some of which he has now formed into a volume to be called "The Honors of the Empire State in the War of the Rebellion," and to which he calls attention. It will be issued through the Putnams as a subscription-book as soon as sufficient orders have been received to pay the cost of a first edition. Such orders should be sent to Mr. Samuel O. Fields, Library of Columbia College. On Decoration Day some years back, Mr. Townsend delivered an address before the Long Island Historical Society, which contained the germ he has brought to fruit in this volume.

—T. Y. Crowell & Co. will publish at once Bourrienne's "Memoirs of Napoleon Bonaparte," edited by Col. R. W. Phipps of the Royal Artillery. The edition is in four volumes, and is a reproduction of the latest English edition, containing all the notes, portraits, medallions, maps, etc., with the addition of several facsimile autographs and a full index. They will publish shortly "A Popular History of the French Revolution," by Mrs. Lydia Hoyt Farmer, which is based on the latest French and English authorities.

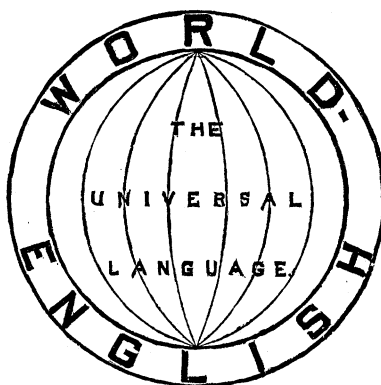
ONE LANGUAGE FOR THE WHOLE WORLD.

WORLD-ENGLISH:

THE UNIVERSAL LANGUAGE. 25 CENTS.

EVERY one has heard of the butcher who, after a long search for his knife, at last found it in his mouth; so speakers of English have been seeking for a universal language, when, lo! it is in their mouths. The intelligibility of English words has been obscured by a dense mist of letters. This is now dispersed by A. Melville Bell, who has already won a world-wide reputation through his invention of "Visible Speech," the great boon to deaf-mutes. Professor Bell calls this new discovery of his "World-English," and the result is a language which cannot fail to meet with acceptance, and at once supersede the supposed necessity for "Volapük," or any other artificial language. No language could be invented for international use that would surpass English in grammatical simplicity, and in general fitness to become the tongue of the world. It is already the mother-tongue of increasing millions in both hemispheres, and some knowledge of the language is demanded by all educated populations on the globe. Social and commercial necessities require that the acquisition of this knowledge shall be facilitated, and it is believed that Professor Bell's invention has removed the last impediment to English becoming the universal language, for which vague desires have long been entertained, although hitherto only futile efforts have been made.

Ex-President Andrew D. White, of Cornell University, says: "I believe that the highest interests of Christian civilization and of humanity would be served by its adoption. China and Japan would be made English-speaking peoples within fifty years, and so brought within the range of Christianizing and civilizing ideas, in the largest sense. All existing missionary work is trivial as compared with this. For your system would throw wide open those vast countries, as, indeed, all the countries of the world, to the whole current of English and American thought."



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Has the merit of great ingenuity.—*Railway Age*.

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World-English deserves the careful consideration of all serious scholars.—*Modern Language Notes*.

World-English is the English language unburdened of its chaotic spelling.—*Popular Science Monthly*.

We commend it to the attention of teachers.—*Ottawa Globe*.

"World-English" and "Hand-Book of World-English" can be had of all booksellers, or will be sent for 50 cents, post free, by the publisher,

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

— Scribner & Welford have just imported a unique example of book-making in the "Mulum in Parvo Atlas of the World." It contains ninety-six double-page maps, a large amount of statistics, and an index covering over one hundred pages, all in shape and size for the pocket. They have just ready a volume of poems and translations by W. J. Linton, the well-known engraver. He privately published, before this, two volumes of poems, both in very limited editions, and now very scarce. In this volume nearly all the poems in those two volumes are included; and, besides new poems, a number of new renderings of French poems, in the original metres, are included.

— Roberts Brothers announce for early publication the second volume of Renan's "History of the People of Israel," covering the period from the reign of David to the capture of Samaria, 721 B.C.; and "French and English," a comparison between these great nations in literature, science, and art, by Philip Gilbert Hamerton.

— Macmillan & Co. will act as the American agents of Sonnenschein & Co.'s new Library of Philosophy. This library is to consist of a series of works edited by J. H. Muirhead, and arranged in three departments, dealing respectively with schools of philosophers, the history of thought in particular departments, and the subject-matter of philosophy treated from an original point of view. In the first series, which will, it is expected, ultimately cover the entire history of thought in the fields of metaphysics and ethics, the following volumes have already been promised: "Sensationalists: Locke to Mill," by W. S. Hough of Ann Arbor, Mich.; "Modern Realists: Leibnitz to Lotze," by Professor Andrew Seth of St Andrew's; "Early Idealists: Descartes to Leibnitz," by W. L. Courtney of New College, Oxford; "Scientific Evolutionists: Comte to Spencer," by Professor John Watson of Kingston, Canada; "Utilitarians: Bentham to Contemporary Writers," by W. R. Sorley of Trinity College, Cambridge; "Moral Sense Writers: Shaftesbury to Martineau," by Professor William Knight of St. Andrew's; and "Idealistic Moralists: Kant to Green," by Professor Henry Jones of University College, Bangor, Me. Of the volumes of the second series, already arranged for, may be mentioned a "History of Logic," by Professor George S. Morris of Ann Arbor, Mich.; "History of Psychology," by Professor Adamson of Owens College; "History of Political Philosophy," by D. G. Ritchie and J. H. Muirhead; "History of Economics," by Dr. J. Bonar; "History of Æsthetics," by A. Bosanquet; and "Evolution of Theology," by Professor Otto Pfeiderer. As an introduction to the library, Erdmann's (smaller) "History of Philosophy," in three volumes, has been translated by Dr. W. S. Hough of Ann Arbor, Mich., and will appear very shortly.

— Macmillan & Co. have just ready F. Marion Crawford's latest novel, "Greifenstein," the scene of which is laid in South Germany, principally in the Black Forest. Some charming bits of German university life are given.

— D. Appleton & Co. have just ready "The History of Ancient Civilization," a handbook based upon M. Gustave Ducoudray's "Histoire Sommaire de la Civilization," a recent French work that has been highly commended by European critics, edited, revised, and extended by Rem. J. Verschoyle. The second part of the work, treating of modern civilization, will appear shortly. They have also just ready "The Ladies' Gallery," by Justin McCarthy and Mrs. Campbell-Praed, in their Town and Country Library.

— Almost the only new English poet who has won a way into American magazines in the past two or three years is Mrs. Graham R. Tomson, a collection of whose verse is about to be issued by Longmans, Green, & Co., almost at the same time that they publish Col. Higginson's poems. Mrs. Tomson's book is called "The Bird-Bride, a Volume of Ballads and Sonnets." The title "ballad" is of interest to Americans, in that it is an Eskimo legend.

— In the May issue of *The Chautauquan*, Professor J. A. Harrison of Washington and Lee University discusses "Physical Culture in Ancient Greece;" Thomas D. Seymour of Yale University writes on "Demosthenes," the eighth in the series of Greek biographical sketches; Russell Sturgis has a paper on "The Archæ-

ologist in Greece;" the Rev. J. G. Wood, the eminent English naturalist, gives the first of a two-part paper on "Odd Fishes;" Charles Barnard writes of "The Social and Economic Effects of Railroads;" Helen Campbell discusses "The Child and the Community;" "Internal Improvements" is the subject of an article by Franklin H. Giddings of Bryn Mawr College; John Burroughs writes on "Lovers of Nature;" Professor Charles J. Little of Syracuse University considers "The Paris Mob and its Achievements;" an article on "Queer Uses of Words" is from the pen of Rebecca Hart; a sketch of the Russian general, Loris-Melikof, is translated from the *Revue des Deux Mondes*; Dr. H. C. Adams of Michigan University explains the nature and use of "National Bank Notes;" and Charles Frederick Holder closes the list of contributed articles with an account of "The Early Californians."

LETTERS TO THE EDITOR.

*.*Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.

The editor will be glad to publish any queries consonant with the character of the journal.

Twenty copies of the number containing his communication will be furnished free to any correspondent on request.

The Robinson Anemometer.

IN concluding my share in the discussion of this question, I wish to show that it looks now as though Professor Marvin and I have been considering the same resultant effect in the anemometer problem, but from different standpoints. If we place an anemometer on a whirler in a free wind, it is easy to see that the wind must have, relatively, a constant effect in all portions of the rotation. If the wind is double the velocity of the whirler, the resultant effect will be due two-thirds to it and one-third to the whirler; if the two are equal, each will produce half the effect; and so on. This effect has an actual continued increase during half a rotation, and an equivalent diminution during the remaining half: therefore it seems plain that the momentum acquired by the cups during half the rotation of the whirler would be balanced by that lost during the other half.

Viewed from the standpoint of the free wind effect, however, we see an entirely different condition. In computing the anemometer factor, it has been customary to regard the motion of the whirler as entering in its entirety in every rotation, and the whole resultant effect of both whirler and wind on the anemometer has been combined with that. In consequence the total effect differs with each relative motion of whirler and wind. For example: if the wind is double the whirler velocity, there is an increase above the motion due to the whirler during the whole of its rotation, and a total increase in the effect, due to the wind, of about 100 per cent; if the two are equal, there is an increase for two-thirds of the whirler rotation, with an increase of over 25 per cent in the effect due to the wind; if the wind is half the whirler, the increase continues through about 59 per cent of the rotation, with an increase in the resultant of 10 per cent; and so on. If we add to this the effect of whirls in the air, the low results found in England seem to be accounted for.

It seems to be pretty well proved that heavy cups, from their momentum, do not run ahead of lighter cups in an intermittent wind; and even if they did, their resultant motion would not be increased on a whirler. There is good evidence, that, at least at a low velocity of the whirler, the direct effect of the free wind accounts for the very low anemometer factor found therein.

H. A. HAZEN,

Washington, D.C., April 15.

Surveys, their Kinds and Purposes.

WILL you kindly permit me space to criticise some of the conclusions reached by Mr. Marcus Baker, in the paper on "Surveys, their Kinds and Purposes," published in your issue of Nov. 30, 1888? The classification of surveying work is becoming more important every day, in view of the greater interest the States are