

space. He rejects Kant's view that space is a product of our own mental action, and also the empirical theory, which reduces space to sensation, and gives as his own view that "the mind has a native and original capacity for re-acting upon certain physical data in such a way that the objects of its activity appear under the form of space." This theory he expounds at considerable length, but fails to make clear what this "mental reconstruction of space" really is, or even what he considers space itself to be. It is plain, however, that this theory is a compromise, or medium, between the Kantian view and that of the empiricists, and thus illustrates what we mean in saying that Professor Baldwin's work reflects the unsettled state of philosophy. If space permitted, we might incline to criticise some of his other views, and particularly his theory that perception and representation are fundamentally the same, and also some of his views on association. In the present state of opinion, however, no treatise on psychology can be entirely satisfactory; and Professor Baldwin's work, in spite of what we consider its errors, has much in it that is good.

An Elementary Class-Book of General Geography. By HUGH ROBERT MILL. London and New York, Macmillan. 12°. 90 cents.

MR. MILL is the lecturer on physiography and on commercial geography in the Heriot-Watt College, Edinburgh. His book is a descriptive geography, without maps, for which the student is referred to some good atlas, but with a few scattered illustrations intended to convey an idea of specially characteristic features of this or that country, or of scenes typical of the life. For instance, there are given views of a street in London, of a street in Cairo, of the Brooklyn Bridge, and of a hotel in the Blue Mountains, Australia.

In his descriptions we fear Mr. Mill has occasionally, for the sake of vividness, preferred to tell of one phase of the life he is handling, leaving his readers ignorant of the great variations that may exist in different branches of the same people. He tells of the Eskimo as living in their snow-huts in an atmosphere rendered so warm by the oil-lamps that they throw off all their clothing. That this is not the constant practice is well known. Again, the tendency to be a little hasty is shown in the statement that "when the sun is rising at Labrador, it is noonday at Vancouver Island."

The general narrative runs smoothly, however; and the book will be found suggestive by American teachers, though its being written markedly for the young of Great Britain will not inure to its advantage in this country.

AMONG THE PUBLISHERS.

THE Harrisburg (Penn.) *Telegram* is preparing to publish in book form a history of the Johnstown disaster. The volume will meet the popular demand for a full description of the great calamity. Besides, the fact that the net proceeds from the sales will be applied for the benefit of printers' orphan children, and aged men and women who suffered by the flood, commends the work to the

favorable consideration of the public. The book will be sold by subscription only.

—The October *St. Nicholas* has contributions from Noah Brooks, Joel Chandler Harris, Celia Thaxter, Elizabeth Robins Pennell, Harriet Prescott Spofford, Julian Ralph, Margaret Johnson, Elizabeth Cavazza.

—Seven writers—clergymen, college professors, and public men, some of them specialists of acknowledged standing—have associated themselves to discuss special questions of social interest and import, and to prepare papers to be afterwards given to the public from time to time in the pages of *The Century*. The writers include the Rev. Professor Shields of Princeton, Bishop Potter of New York, the Rev. Dr. T. T. Munger of New Haven, the Hon. Seth Low of Brooklyn, and Professor Ely of the Johns Hopkins University. For each paper the author will be responsible, but he will have had the benefit of the criticism of the other members of the group before giving it final form. The opening paper will be printed in the November number. *The Century* also has in preparation a series of papers on topics relating to the gold-hunters of California. The articles will be prepared for the most part, as were the war papers, by prominent participants in the events which they describe; and they will include accounts of early explorations, life in California before the gold discovery, the finding of gold in 1848 at Sutter's Fort, the journey to California by the different routes (around the Horn, across the plains, by Nicaragua, and by Panama), life in the mining-camps and in San Francisco, and other important aspects of California life at the time. It is believed that these papers will be in the nature of a revelation to the reading public of the present day as to many interesting aspects of the pioneer period, its romance and adventure, its tragedy and pathos, and its poetry and humor. A careful search in California and elsewhere has already brought to light many interesting pictures never yet engraved. The publication of the papers will not be begun until the series is further advanced.

—Mr. M. F. Sweetser, for the past seventeen years connected with James R. Osgood & Co. and Ticknor & Co. as writer of their capital series of American guide-books, has become editor-in-chief for the Moses King Corporation. For a long time he will be exclusively engaged on the mammoth "King's Handbook of the United States," the most important and costly work of the kind ever published, and which will be issued next year.

—The success of Marshall P. Wilder's book, "The People I've Smiled With" (Cassell & Co.), has surprised no one more than that amiable little fellow, its author. He knew that he had a great many good friends, who would buy it and read it, but he did not know that they were to be counted by the thousands. The sale of this book has been second only to that of Max O'Rell's "Jonathan and his Continent."

—Messrs. G. P. Putnam's Sons announce as in preparation "An Experimental Study in the Domain of Hypnotism," by R. von Krafft-Ebing, professor of psychiatry and nervous disease in the University of Graz, Austria, translated by Charles G. Chaddock,

D. APPLETON & CO.

PUBLISH THIS WEEK.

EUROPEAN SCHOOLS;

I.

OR, WHAT I SAW IN THE SCHOOLS OF GERMANY, FRANCE, AUSTRIA, AND SWITZERLAND. By L. R. KLEMM, Ph.D., Principal of the Technical School, Cincinnati, Ohio. Vol. XII of "The International Education Series," edited by WILLIAM T. HARRIS, LL.D. Fully illustrated. 12mo. cloth. Price, \$2.00.

In this volume the author reports the results of a ten months' journey among the schools of Europe. Lessons which the author heard are sketched as faithfully as a quick pencil could gather and the memory retain them. The author saw the best that Europe could offer him, and in this volume he has pictured the best results, described the most advanced methods, and given a great number of valuable hints that will be serviceable to all teachers who wish to advance the standard of their work.

II.

THE STRUCTURE AND DISTRIBUTION OF CORAL REEFS.

By CHARLES DARWIN. With Notes, and an Appendix giving a summary of the principal contributions to the history of Coral Reefs since the year 1874, by Prof. T. G. BONNEY. From the third English edition just published. With Charts and Illustrations. 12mo. cloth. Price, \$2.00.

The publishers have taken the occasion of a new English edition of this work to issue the first American edition, which is made especially valuable by the important additions by Prof. Bonney.

1, 3, & 5 BOND STREET, NEW YORK.

NOW READY.

THE BERMUDA ISLANDS:

A Contribution to the Physical History and Zoology of the Somers Archipelago. With an Examination of the Structure of Coral Reefs. Researches undertaken under the Auspices of the Academy of Natural Sciences of Philadelphia. By Prof. Angelo Heilprin, F.G.S.A., F.A.Geogr.Soc. 8°. Cloth, 19 plates, \$3.50. Sent, post-paid, on receipt of price.

ACADEMY OF NATURAL SCIENCES, Philadelphia.

HEAVEN AND HELL, by EMANUEL SWEDENBORG, 416 pages, paper cover. Mailed pre-paid for 14 Cents by the American Swedenborg Printing and Publishing Society, 20 Cooper Union, New York City.

M.D., assistant physician Northern Michigan Asylum; "The Story of the Bacteria and their Relations to Health and Disease," by T. Mitchell Prudden, M.D., author of "A Manual of Practical Normal Histology;" and "Through the Ivory Gate," being studies in psychology and history, by William W. Ireland, author of "The Blot on the Brain."

—Ex-Postmaster-General Thomas L. James has prepared an explanation of needed postal reforms, which will appear in the *October Forum*. Mr. James declares that the railway mail service is twenty years behind the times, and ought to be very greatly improved; that small offices near to one another ought to be consolidated under one management, so as to save expense; and that ocean postage ought greatly to be cheapened. Senator Cullom of Illinois will have an article in the same number on "Protection and the Farmer," to show that the farmers are benefited by a protective system more than any other class. Mr. Edward Wakefield, a member of the Australian Parliament, who has been elected and defeated many times under the Australian ballot system, will contribute to this number an explanation of the practical workings and of some defects of the system which has been so much discussed in this country. Professor William T. Harris, United States commissioner of education, writes a critical examination of Edward Bellamy's "Looking Backward."

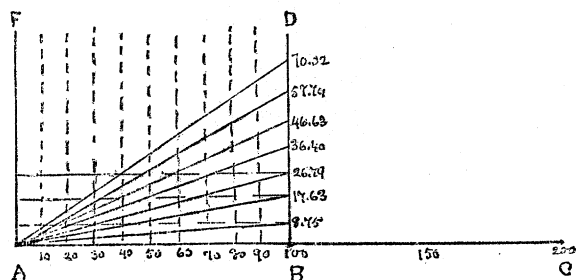
LETTERS TO THE EDITOR.

A New Method for ascertaining Heights and Distances in Right-angled Triangles.

ABOUT four years ago I devised a method whereby the solution of right-angled triangles, for the taking of distances and heights, is much facilitated by a tangent scale on the instrument.

The principle depends upon the well-known fact that the perpendicular of a right-angled triangle is equal to the tangent of the included angle multiplied by the base.

The graduation is accomplished as follows: we take a base-line (say, of 100, for convenience), and an angle of five degrees. Com-



FA and *DB* represent the rights of an ordinary surveying-compass; *DB* containing the scale, and sliding upon *ABC*, which contains the numbers 1-200 marked in equal divisions.

puting this, we find the perpendicular to be 8.75 feet, yards, or metres, in whatever system the base was measured.

This is marked on the arm *BD* instead of five degrees. The computation is continued for the various angles, and the results marked upon the scale. This for a base of 100. Now, if the observer is placed only 50 distant from the object, *DB* is moved to that point on the scale *ABC*, and the height is seen to be the same as before; for, at a distance of 50, an angle of ten degrees, which is observed by going one-half nearer, is subtended by a perpendicular of 8.75, as before: so by moving the scale backward or forward, corresponding to the base-line taken, the height of an object can be immediately read off, provided the side of the object contains the height; if it does not, other means of triangulation have to be adopted, several methods of which can be readily improvised by one accustomed to such work. Horizontal angles can be solved in the same manner by having the rim of the compass-box graduated for a given base-line; then by using this base-line, and taking the distance between the observed points to represent the perpendicular of the triangle, the distance can be read directly from the instrument.

HARVEY B. BASHORE.

West Fairview, Penn., Sept. 13.

Brocken Spectre.

THIS phenomenon has been associated with the Brocken, one of the Hartz Mountains in Germany, about 3,700 feet in height, because more often observed from there. It has given rise to a large number of remarkable theories in explanation, many of which originated with those who had never seen it. An exhaustive article, giving a *résumé* of records regarding it, will be found in the *Quarterly Journal of the Royal Meteorological Society* for 1887, at p. 245. The explanation having the widest acceptance was published in the above article, and later in the *American Meteorological Journal*, August, 1889, and is as follows: the eye is deceived by the apparition, and thinks it much farther away than it really is. It seems to me that this is hardly tenable. The only way in which the eye could be deceived would be in case the shadow were formed a long way off; but, if it were really formed near the eye, it would appear in its natural size. When one looks into a concave mirror, the eye is at first deceived, thinking the mirror plane; but in this case the deception is very plainly due to the action of the mirror.

The very singular explanation is given in "Johnson's Cyclopædia," that "the vapors of the atmosphere act as a vast concave mirror." Singular as it may seem, however, it is probable that this is, undesignedly, more than half correct. A short stay on the summit of Mount Washington has shown this spectre in all its phases. The best time to see it is either in the early morning or just before sunset, and when the fog is not too dense to hide the sun. If the observer turns his back to the sun, he will see on a bank of fog, if it does not envelop him, a slightly diminished shadow of himself. The eye is not deceived in any case as long as the fog forms a nearly vertical wall at fifty or more feet distance. If, now, the fog envelops the person, the shadow appears to start directly from him, and often seems very large. There is no deception of the eye at all, if one is accustomed to careful observations.

The following is advanced as a probable explanation. The shadow of the person is cast upon the fog in solid form; that is, the object shuts off the light of the sun, and one sees only the surface of his own solid shadow looking into its axis. The arms and legs also cast solid shadows, and the person sees the movement of these outside of the shadow of his body. It may be better understood to call to mind the shadow one sees on the ground as the sun is setting. This gradually grows longer and longer, and at last disappears in the distance. The fog forms a sort of "ground," and the shadow is cast upon it. It is possible to form the same shadow with a lantern which concentrates its rays by a reflector. There is no difficulty, in a fog, in seeing the shadow enormously enlarged. Scores have seen it on Mount Washington. It might be thought that the nearness of the light was the cause of the enlargement; but this was not the case, for the shadow began exactly at the person where it could have been only the natural size.

The familiar appearance of "sun drawing water" will help to explain this phenomenon. In this case the air is full of haze or fog, and a small cloud casts a solid shadow thousands of times as long as itself. The surface of this is what we see. If an eye were placed in the edge of the cloud casting the shadow, the latter would appear on all sides. In the case of the spectre, this same solid shadow could be seen by a second person standing and looking across it, provided the light of the sun were not dimmed by the fog. It is to be hoped that we may have more observations of this interesting phenomenon.

H. A. HAZEN.

Washington, Sept. 23.

Note on the Anserine Affinities of the Flamingoes.

A CLOSER study of the structure of a member of the groups of existing birds is throwing a new light in upon their relationships, and at the same time somewhat disturbing some very crude and preconceived notions as to their affinities.

For a great many years past, some of the most distinguished of zoölogists have insisted that the position of the flamingo was "so completely intermediate between the anserine birds on the one side, and the storks and herons on the other, that it can be ranged with neither of these groups, but must stand as the type of a division by itself." Recently, Professor Parker (*Ibis*, April, 1889) has said, in reviewing the structure of the wing in the flamingo (*Phenicopte-*