

his subject; the explanation of the principles and methods involved in the determination of the sun's distance by means of Transits of Venus, for example, is particularly meagre and unsatisfactory. The public that does not care to have to exert much thought over its reading is not the public that will purchase books on astronomy 550 pages in length; an occasional light article in a magazine will satisfy its utmost craving.

Nevertheless a book which in a lucid and easy style supplies accurate and the latest information as to the methods and discoveries of astronomy, which is written by a competent authority, and which, if not profusely illustrated, is supplied with plates and woodcuts which leave no important object unrepresented, no fundamental argument unsupported, can only be spoken of as a good one; and those who wish to possess a full, interesting, and popular account of the present state of the most noble and enthralling of all the sciences cannot do better than make themselves possessors of the "Story of the Heavens."

OUR BOOK SHELF

Annual Report of the Board of Regents of the Smithsonian Institution for the Year 1883. (Washington: Government Printing Office, 1885.)

THIS is the most bulky, and perhaps the most valuable, of these well-known Reports; it consists of very nearly 1000 pages, and we learn, from the resolution of Congress which precedes it, that 16,060 copies have been printed. The more strictly official part of it deals with the Smithsonian Institution and the Natural History Museum, including the Report of the Committee on the Henry statue recently erected in the grounds; but, besides these, we have Reports on the various branches of science, so valuable that no scientific library should be without them. Astronomy has been taken in hand by Prof. Holden, the newly-appointed Director of the Lick Observatory; meteorology, by Mr. Cleveland Abbe; physics, by Prof. Barker; zoology, by Prof. Guild; and anthropology by Mr. Otis T. Mason, the latter covering nearly 200 pages. Other branches of science besides those which we have named are reported at less length.

When we consider the importance of these *résumés*, and the fact that 7000 copies of the volume are being distributed gratuitously by the Institution all over the world, we may readily concede that in this, as in their other duties, the Regents of the Institution are faithful to the trust imposed upon them by Smithson to promote the increase and diffusion of knowledge among men.

The Sun: a Familiar Description of His Phenomena.

By the Rev. Thomas William Webb, M.A., F.R.A.S. (London: Longmans, 1885.)

THIS is a little book of seventy-eight pages, containing what appears to have been a lecture given by the author, who, to the great loss of observational astronomy, died a short time ago. That part of it which deals with the telescopic facts is very much more in harmony with our present knowledge than that smaller part of it which deals with the revelations of the spectroscope. The whole is very charmingly and simply written.

Notes on the Physiological Laboratory of the University of Pennsylvania. By N. A. Randolph, M.D., and S. G. Dixon. (Philadelphia, 1885.)

THIS little volume consists of a series of short papers giving the results of practical investigations into the behaviour of certain substances, such as starch, cod-liver oil, boiled and unboiled milk, &c., when used as articles

of food by infants and adults. Many of the papers are of interest; all of them show evidence that in the University of Philadelphia, physiology is not taught as a matter of book-learning, but that the students are instructed in the practical bearings of the science.

LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.]

[The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to insure the appearance even of communications containing interesting and novel facts.]

Lieutenant Greely on Ice

I HAVE read with deep interest the graphic but brief account of Lieut. Greely's Arctic explorations given in NATURE of November 26 (p. 90), and also in some of the Scottish papers, which touch upon subjects not mentioned in NATURE.

Assuming that these reports are, in all material points, correct, I ask leave to be permitted to offer some remarks on a few of the opinions expressed by the distinguished explorer, the correctness of which seems open to question.

Before doing so, however, I would draw attention to the very considerable difference in the mean yearly temperatures at Discovery Bay, as given by the English Government ship that wintered there in 1875-76, and that of Lieut. Greely wintering at the same place six or seven years later.

Capt. Stephenson, H.M.S. *Discovery*, 1875-76 ... $-4^{\circ}23$ F.
Lieut. Greely, in house six or seven years later, about $+4^{\circ}00$

Making a difference of $8^{\circ}23$

I suppose the thermometers to be in both cases correct, and the mean temperatures computed in the same manner in each case. In saying that "Grinnell Land has the lowest mean temperature in the globe," surely Lieut. Greely goes a little too far, as no observations have elsewhere been made in so high a latitude, nor at any point in the great circle of 1100 miles' diameter nearer to the Pole than Discovery Bay, in nearly all parts of which it would be a very natural conclusion to arrive at, that the mean temperature would be lower. Lieut. Greely adds, "This" (the lowest temperature in the globe) "was in accordance with their expectation."

Kane went to the Arctic Sea with "expectation" and a belief that he would find an open Polar sea! His steward, Morton, conveniently found it for him, and it was *believed* in for a time, until other expeditions passed the place where "Morton's pool" of open water had been seen; but alas! not a trace of it could be found, although ships had gone by, creeping along shore, some hundred miles further north. The distinguished Greenland explorer Rink, finally, effectually demolished this Arctic dream. Lieut. Greely's open Polar sea of 1100 miles' diameter round the Pole seems to be a myth of a somewhat similar kind. It is purely a theory, with facts, to my mind, adverse to its probability; for why this immense body of water in the far north, whilst constantly sending forth great ice-streams southward through the broad inter-Greenland-Spitzbergen Channel, should be itself ice-free, whilst other seas far southward, having a much higher temperature, and probably with currents and gales of wind at least as strong, are ice-encumbered, is rather difficult to understand.

As regards floebergs, Lieut. Greely has advanced their size and thickness far beyond anything one would infer from reading the narrations of the English Expedition of 1875-76, which first gave the name to those curious masses of ice. He has not only done this, but he attributes their formation to a source which completely destroys the meaning of the name "floeberg," used in contradistinction to "iceberg," to show that the former has its origin from the floe or sea ice, instead of from ice formed on land, and is either built up by the gradual increment of the floe and the snow that falls upon it, or, as I believe more likely, by a number of floes being forced by immense pressure one over the other, until great thickness is attained. Perhaps the best example of a floeberg (according to my idea) that I can give, is that which lifted the ship of the Austrian Expedition seventeen feet (I think) out of