

An Essay on Spiritual Evolution considered in its Bearing upon Modern Spiritualism, Science, and Religion. By J. P. B. (Trübner and Co., 1879.)

THIS is an essay of 150 pages by a thoroughgoing "spiritualist," according to the most "modern" signification of the term. As such it is not a book very easy to review in the pages of a periodical devoted to the consideration of modern science. Whether or not spiritualism has any basis of truth, it is certain that a genuine belief, if not in spiritual agency, at least in the occurrence of certain weird and inexplicable phenomena, has of late years spread with extraordinary rapidity, and now includes among its avowed supporters some distinguished scientific men of the day. The estimate that a reader will form concerning the merits of the essay will depend chiefly on his attitude of mind concerning its subject. For "J. P. B." assumes the genuineness of so-called spiritual manifestations, his thesis being that granting a future state and the reality of spiritual communications, these communications invariably teach a doctrine which is in harmony with—or rather analogous to—the doctrine of organic evolution; they teach that gradual development is the law of spiritual life after death as it is the law of bodily life before death. We feel that our function as reviewers ends, when we say that in all his statements of and references to the facts of physical science the essayist is accurate. These statements and references appear, indeed, to us more numerous than the treatment of his subject requires; but if so they at all events serve to show, what perhaps they are intended to show, that "J. P. B." is an intelligent man, who, while prosecuting his spiritual studies—whether in the body or out of the body we do not know—still keeps his eyes open to what is going on in the lower world around him.

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 ensure the appearance even of communications containing interesting and novel facts.]

Sun-Spots in Earnest

AFTER three days of total cloud, but after months and months of general watching for sun-spots, and seeing either nothing at all, or only the smallest possible points visible in my household instrument, merely a little picture-forming model of an equatorial by the ancient Ramsden—I could hardly believe my eyes this (Saturday) morning on beholding, even in spite of driving clouds, haze, and smoke, three comparatively enormous sun-spots besides strings of smaller ones connecting them. The group was situated not in the sun's northern, as all the other little points had been, but in its southern, tropic; not just coming into view at the following limb after unknown periods of concealed growth on the other side of the solar orb, but only a day or two past the very middle meridian of its earthward side.

Hence these gigantic spots may have burst, exploded forth, only a day or two ago, and just when their locality was turned towards the earth; and it is indeed greatly to be hoped that some regular and accomplished solar observer in one of the astro-physical observatories may have been lucky enough to have positively seized and photographed this, for years past, most unequalled phenomenon both in its suddenness and immense extent. The energy too which must have presided at their birth, was borne continued witness to this day by rapid changes in the configuration of the spots; and certainly, take them all in all, the long quiescent period of the sun's internal heat-forces seems now to be fairly over, and the wondrous orb, on whose influences we all physically exist, is embarked on a new cycle of radiant activity.

PIAZZI SMYTH

15, Royal Terrace, Edinburgh, October 18

Climatic Effects of the Present Eccentricity

I HAVE just read the Rev. O. Fisher's letter (vol. xx. p. 577) asking for an explanation of the reason why the January temperature at the equator, when the earth is in perihelion, is not much higher than in July when in aphelion. The temperature to which Mr. Fisher refers is the ordinary temperature as indicated by the shaded thermometer, which, of course, is simply the temperature of the air. I do not think it is difficult to explain why the air at the equator in January cannot be much hotter than in July.

If it can be shown from observation that the black bulb thermometer which indicates, not the temperature of the air, but the direct heat of the sun does not stand higher at the equator in January than in July there would certainly be a difficulty, if the temperature of space be as low as -239° F. It would be desirable to know if such is actually the case. Perhaps some of your readers might be able to afford some information on this point, which seems to have been overlooked by meteorologists.

In a future letter I shall give what appears to me to be the reason why the air at the equator is not hotter in January than in July.

JAMES CROLL

Greenwich Meteorological Observations

WITH reference to Mr. Ellis's letter in NATURE, vol. xx. p. 576, it may be enough to point out that, as Table 77 gives only the mean temperature of each day and month of the year for the whole period of the twenty years' observations, we must look elsewhere for the mean temperatures of the months of each successive year; and that this information is not furnished by Table 52, seeing that the means of that table have been prepared without correction for omitted days. Could Table 125 have been accepted as giving accurate mean temperatures this information would have been before us; but as matters stand a table showing the mean monthly and annual temperatures of Greenwich during each of these twenty years remains still to be constructed. An explanation as to how the daily mean values for those days on which no photographic value was available, were obtained in constructing Table 77, and a statement of the daily inequality of temperature of the underground apartment in which the photographic barometer is placed, would enable meteorologists to value even more exactly the highly important results of the Greenwich Meteorological Observations.

ALEXANDER BUCHAN

Rag-Bushes

CONSUL LAYARD has given a remarkable instance of this form of fetishism, practised by the Cingalese, near Jaffna, as illustrating the paper read by Mr. Walhouse at the Anthropological Institute, April 8, 1879. When passing through the Betsileo forest country many years ago we came frequently on somewhat analogous monuments.

"Often on the summit of some of the steepest ascents we found huge piles of branches, twigs, bits of cloth, &c., the thank-offerings of passing travellers for having reached thus far on their journey and surmounted the hill" ("Madagascar and the Malagasy," p. 32, Lieut. Oliver, R.A.). According to Mr. George A. Shaw, of the London Missionary Society, in the last number of the *Antananarivo Annual*, "These heaps are called *taitao*, and have been added to at various times by people carrying firewood or dried grass, &c., to market. They throw on a piece 'for luck,' repeating a form of words, signifying, that if they are fortunate in getting a good price for their goods, when they return they will add another piece to help the *taitao* to grow large. Men driving cattle, or sheep, or pigs, throw on stones with the same speech, often spoken mentally only."

The Rev. R. Batchelor, S.P.G., who accompanied Bishop Kestell-Cornish to the Antankarana country also mentions that when, in trying to knock down the seeds, he threw pieces of wood and stone up at a fan palm, he was requested to desist by one of the villagers "as the tree was *Zanahary*, i.e., God, adding at the same time, that a man who had dared to cut the trunk with a knife had been killed the same day by *Zanahary's* anger." But should I find an intelligent Malagasy battering one of my pet conifers to obtain the cones I should also remonstrate, and unless he was a good linguist he would assuredly believe that I considered my specimen-plants sacred, i.e., from stones and sticks. A far better example is that recorded by the Rev. J. Richardson, Head Master of the London M.S. Normal School at Antananarivo, as occurring at Vólotarà, in the Bara country,