

current number of the *Fortnightly*, I should desire, with your kind permission, to find in your columns the opportunity of saying without delay the single word which still seems necessary between Dr. Stirling and myself.

Dr. Stirling now holds that the real question between him and me is whether or not Hegel "attempted" to produce "a Hegelian Calculus." And so it seems to him a virtual concession of the entire case when I say that the phrase "Hegelian Calculus" is used by me in irony. Dr. Stirling, I fear, misunderstands me. What Hegel has given us on the subject of the Calculus is, strictly speaking, nonsense. But, as I have shown, this nonsense is not mere metaphysic, but involves mathematical absurdity. It is of course only in irony that one can dignify the paradoxes of mathematical ignorance with the title of a Calculus; and if this admission satisfies Dr. Stirling, then our controversy is at an end.

W. ROBERTSON SMITH

Aberdeen, April 3

Meteorology of the Future

I WISH to call the attention of the writer of the article "The Meteorology of the Future," which appeared in *NATURE* of December 12, 1872, to a little work which appears to have entirely escaped his notice.

In the beginning of 1871 I circulated a small book of twenty-four pages, containing results deduced from the observations made at this Observatory, 1841 to 1870. I have given the decimal and annual variations of all the meteorological elements collected, and have pointed out their mutual interdependence. I have also given on an enlarged scale the curves of variations of annual mean temperature and freedom of the sun's disc from spots, which appeared in the Proceedings of the Royal Society, March 23, 1871.

No one acquainted with the subject would, I presume, believe that periodical variations could exist in the temperature without existing also in the other meteorological elements; vapour as measured by tension, hence barometer humidity and rainfall.

In the introduction to the work referred to, it is stated with regard to the curve of temperature and inverse curve of solar spots:—"There is an agreement between the curves which will probably be regarded as too close to be the result of accident, and which renders it probable that the two phenomena, represented by the curves, result from the action of a common cause connected with changes of mean solar energy." And this established with more or less probability, I proceeded to point out (p. 17)—"That the variations of temperature are borne out by those of tension of vapour," and on page 22—"That the correspondence between humidity and rainfall is strongly marked," and also that—"The correspondence between a curve swept to represent the variations in rainfall and the inverse curve of the variations in mean temperature is of a marked character."

You will perceive, therefore, that the connection between solar spots as an indication of less solar heating power and vapour, and rain, as well as temperature, was in the book referred to explicitly pointed out. I may add to this note, that the rainfall for

1871 was 20.098 inches
1872 was 29.325 inches.

E. J. STONE

Royal Observatory, Cape of Good Hope

Bright Meteor

I HAVE this evening, at 7.40, seen the brightest meteor I have ever beheld: starting from a point about half-way between Cassiopea and the Pole star, it descended through about 20° of arc, when it was lost sight of behind a cloud: this cloud was a thick white opaque cloud shining brightly in the moonlight, but the meteor behind it illuminated the sky, and made the cloud appear for the moment dark against it.

The colour of the meteor was a decided green; its passage was not very rapid; it appeared far brighter than any star or planet, and seemed to have a short tail. Not only was it a gloriously beautiful object in itself, but it illuminated all the sky in its neighbourhood with its greenish light.

EDMUND H. VERNEY, Commander R.N.

H.M.S. *Grouler*, off Cape Matapan, March 5

The Great Meteoric Shower of November 27, 1872

THIS interesting display was also observed in the neighbourhood of the small town of Santa Lucia in Venezuela (10° 12'

N., 68° 57' W. from Paris), by Dr. A. Alamo. The first meteors were seen at half-past 7, about 100 in 30 minutes. Most of them followed an easterly course, some leaving a luminous track visible for several minutes. From 8 to 12 o'clock their number was too large for counting, but after midnight the weather got misty, and few meteors could be distinguished. The shower, however, continued, and still in the morning some meteors were traceable. Unfortunately Dr. Alamo cannot say anything about the radiant point of the shower. At Caracas the sky was densely overcast, and not even a glimpse of the spectacle could be obtained.

DR. A. ERNST

Caracas, Feb. 21

The Antiquity of Man

THE letter of Sir John Lubbock in your issue of March 27, induces me to call attention to what seems to me to be an anomaly in the state of our evidence concerning fossil man. Sir J. Lubbock has insisted, and with much reason, on the parallelism between the condition of existing savage races and that of fossil man; but, I would ask, is there any existing savage race capable of delineating animals in the masterly way in which the elephant is delineated on the plate of bone figured at page 326 of *NATURE* (February 27, 1873)? Such a life-like representation as is here produced by a few rough scratches would not discredit a modern artist. Unless I am under a misapprehension, the best figures that living savages can produce are but uncouth things, in which case either the parallelism between the intelligence of existing savage races and of fossil man fails in one important particular, or else a suspicion arises as to the contemporaneity of these engraved bones with palæolithic man; and a doubt is thrown on the supposed antiquity of the Troglodytes to whose hands this engraving is ascribed.

We should, I think, until this discrepancy is explained, look with still greater suspicion upon the contemporaneity of engraved representations of animals with so early a form as Miocene man, or accept them as any evidence of his existence at that epoch.

While suggesting the above caution, I would not, however, be understood to dissent from the probability of some form of man having existed as far back as the Miocene period, since eleven years ago, I observed in the *Phil. Mag.* (for April, 1862, last paragraph but one of the paper) that the views there discussed "seemed to me to lead us to the presumption of a far greater antiquity for our race than had hitherto been accorded to it, reaching perhaps far back into the Tertiary period."

Brentwood, Essex

SEARLES V. WOOD, JUN.

Skeletons at Mentone

A VERY accomplished geologist, a friend of mine, is now staying at Mentone, for the benefit of his health, and he writes to me under the date of the 25th ult. as follows:

"Another skeleton has just been found here in one of the caverns. It is far less perfect than the former one. The head is crushed and partly wanting, and a considerable portion of the vertebral column is absent. The limbs, however, indicate a person of larger size than the first skeleton. On the arms are bracelets of shells, which are bored for stringing. The parts found are lying in their natural position. With the skeleton are traces of what looks like very fine iron ore. Of this substance there is but a very small quantity, perhaps two or three table-spoonfuls."

With regard to the iron ore, there have been many conjectures, and it is extremely remarkable that about the same quantity of a similar substance was found with the first skeleton. The more general opinion seems to be, that this material was employed in some burial rite.

W. T.

Torquay, April 1

[From a cutting from *Les Echos de Cannes* sent us by W. T., we learn further that the head was covered by a network of shells, and that beside the skeleton were found many implements of bone, and even drawings of fish and swans.—ED.]

Instinct

Perception in Ants

THE following fact with respect to the habits of ants, which I believe to be quite new, has been sent to me by a distinguished geologist, Mr. J. D. Hague; and it appears well worth publishing.

CHARLES DARWIN