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 may be right in stating that Hegel has never suggested a doctrine in contradiction with his own. But Dr. Stirling’s own statement is a contradiction of himself, because he also states that Hegel has given us the subject of the Calculus, strictly speaking, nonsense.

Dr. Stirling, then, our controversy is at an end.

W. ROBERTSON SMITH

Aberdeen, April 3

Meteorology of the Future

I hasten 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 in this Oakland station. I have given the data of the measurements 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 periodic 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 mean temperature 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 indicator 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 20.05 inches

1872 was 29.325 inches.

Royal Observatory, Cape of Good Hope

E. J. STONE

Bright Meteor

I have this evening, at 7.45, 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 yet it had a short time value. Note on other it was 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. Gromer, 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 palaeolithic man, and a doubt is thrown on the supposed antiquity of the Troglopytes to whom hands this engraving was assigned.

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.

Skeletton 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 caves. 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 strings. 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 teaspoonfuls.

We 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 rites.

W. T. THORP, 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, 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
The interesting discussion on this subject in your columns has hitherto been almost entirely confined to facts of extraordinary "perception" with manmals. But in other classes of the animal kingdom there occur instances perhaps even more astonishing still, showing a power of perception which we need must attribute to smell, unless we are inclined to talk about natural forces hitherto unknown, to which I should prefer saying that we do not yet understand the matter at all.

In the valuable monthly, "Der Zoologische Garten," v. X. (p. 254), there is a paper on "the life and habits of butterflies, recording, among other cases, the following one.

A well-known collector, the late M. Riese of Frankfort, bred a crippled female of Lasiocampa pruni, a species very rare here. M. Riese dwelt in a narrow and densely-peopled lane near the outskirts of the city besides the churchyard and lived with his other boxes, and soon had the pleasure to find it surrounded by some males, which became the collector's welcome prey. Here, as the writer fittingly remarks, the performance of the male in finding out the female was the more surprising, by the latter being confined in a little village of the town as well as by the rarity of the species in general.

If, as the writer adds, there can be any doubt of the males being guided in these cases by smell, what is more to be wondered at, the acuteness of the males (supposed to be located in the eye-comb) and the apparent enormity of the odour emitted by the females?

I may add that similar and even more striking cases (the females being confined within a room, and the males appearing outside at the windows) have been recorded by that most reliable observer, the late Dr. von Heyden.

Though I am not prepared to follow the whole length of Mr. Darwin's ideas on "Pangenesis," yet I cannot avoid observing how much such facts as these seem to support the fundamental ideas given by that 

J. D. WETTERHAN

Frankfort-on-the-Maine, April 5

_SEEING IN NATURE_

Many letters on the instinct of animals I am tempted to send you an incident which fell under my notice and which would seem to denote in domestic fowls a greater amount of reasoning power and of intercommunication than the lower animals are usually credited with.

Three years ago I was staying at a house in Ireland where a good deal of poultry was kept, and a young white duck just hatched. One day being called in by the sound from the pen I rose and ran out, and on looking into the yard found a brood of young ducks, one being a particularly fine and healthy-looking duck, and with a hen and a young brood of chickens under the furnace in the lark kitchen, to keep it from the rats which infested the outer houses. One evening our attention was called by the servants to a great commotion between the hen and the duck, which had always been excellent friends, and upon close examination it was discovered that the duck was not the hen's usual companion, but although closely resembling it in age and colour, was a perfect stranger, not even belonging to the premises at all, whilst the proper duck was found quietly resting with the other ducks in the duck-house. The intruder having been ejected, and the ordinary bed-fellow restored to the hen, peace again reigned between the feathered companions; but the singular part of the affair is, how the duck could have