

also tapers down to about the thickness of a straw, and here there is no calcified axis. A thin section of the stem in its thickest part showed that it had been formed in concentric layers which were perfectly circular and presented nothing corresponding to the stellate arrangement of the sarcodæ. These rings undoubtedly represent different phases in the life of the animal. I have counted as many as thirteen in one section, and should they indicate animal deposits, this would give us thirteen years as the time required for their formation, a period not too long when we consider the length (upwards of seven feet) which some of these stems have attained. Whether this specimen is new I am not prepared to state, and shall not therefore name it, although I believe it has not been before observed. Its generic relations will, I think, be with *Hyalonema* and *Euplectella*, both sponges of the Pacific."

JAMES BLAKE

San Francisco, Oct. 27

Misleading Cyclopædias

CAN any of your readers inform me if there is such a thing as a good and honestly constructed cyclopædia—one that does not send you hunting for information from one volume to another, and refer you backwards and forwards to articles that do not exist?

I have been repeatedly annoyed by this kind of will-o'-the-wisp, but have to-day met with such an outrageous example of it, that, although it involves some trouble, I feel it to be a duty to make a public exposure of it in your columns.

Requiring some facts on unusual atmospheric refraction, I turned to "Refraction" in the "English Encyclopædia." This article referred me to "Mirage, Fata Morgana," &c., for information on this branch of the subject. Turning to "Mirage," I found not a word, but another reference to "Reflection and Refraction, Atmospheric, Extraordinary." Next I tried "Fata Morgana," again the same reference. Coming back to letter R, I found the article "Reflection and Refraction," but was here referred to "Light, Optics, Refraction, Refrangibility;" then to letter A, "Atmosphere, Atmospheric"—nothing on the subject. Letter E, "Extraordinary Refraction"—nothing but a reference back again to "Mirage!" "Light, Optics, and Refrangibility" contain nothing on the subject.

I was thus sent on a search through five volumes of the work, and made to hunt out nine distinct headings for what does not exist; and what makes the matter worse is, that the writer of the article "Refraction," at the end of the work, must have known that it did not exist when he referred back to "Mirage, Fata Morgana," &c., which words have not a word of information appended to them.

An alphabetical cyclopædia is so much the most convenient for reference, and might be such an invaluable addition to a library, that it is the more to be regretted that it should be brought into disrepute by the absence of all efficient editorial supervision.

A. R. WALLACE

Rainbows on Blue Sky

IN NATURE for Nov. 21 a correspondent asks for examples of bows seen on a cloudless background.

I have seen this phenomenon twice at least. In one instance I remember that the extremities of the bow were seen against cloud, while the central portion bridged a space of clear blue sky.

A more perfect example occurred on the 19th of February in the present year. The following is a *verbatim* extract from my notes of that day:—

"Peculiar rainbow at 11.50 A.M.; perfect (except quite near the extremities), fairly bright, but projected throughout its entire length against clear blue sky. No rain was falling at the time, nor was there any appearance of falling rain on the sky, but the character of the clouds and of the weather was consistent with the supposition of slight and partial showers."

The phenomenon, although rare, does not seem to call for any special explanation. In showery weather, especially with a low barometer, one may sometimes see rain falling from a mere shred of cloud, the sky round about being clear. In such a case it is evident that there may be places whence an observer would see a rainbow against blue sky. Even should there be no visible cloud from which the rain seems likely to have fallen, the same explanation will still serve, for the cloud may be too attenuated to be visible, or may indeed be actually exhausted, the rainbow being formed on its last drops.

It scarcely needs to be pointed out, that when a rainbow is seen, as it usually is, against a cloud, the presence of the cloud is accidental rather than essential, the bow being formed not on the cloud, but on the drops of falling rain, and those being generally much nearer to the observer than the cloud.

Clifton, Nov. 25

GEORGE F. BURDER

The Greenwich Date

I AM anxious to obtain the solution of a question which has for some time perplexed me, and which is rendered more pressing than formerly, now that telegraphic communication is established between England and Australia.

It appears that a telegram sent on October 21, 3h. 5m. mean astronomical time at Adelaide, was received on October 21, 21h. 40m. mean astronomical time at Greenwich. Now, to obtain the Greenwich date of its despatch, we apply the longitude in time, adding when the place is west of Greenwich, and subtracting when it is east. Adelaide is 9h. 35m. east of Greenwich, the date sought is October 20, 18h. 10m. But suppose a place 9h. 35m. west of Greenwich, then the date sought comes out October 21, 13h. 10m., that is to say, the result of the operations gives a difference in the day of the month at places where, in fact, the day of the month must actually be the same. The query then is—in what part of the globe, and in what meridian, does October 20 end, and October 21 begin?

Fleetwood Vicarage

JAMES PEARSON

Ocean Meteorological Observations

I PRESUME that anyone looking at the chart on page 43 of this week's NATURE, or reflecting on the circumstances under which barometric observations at sea are ordinarily taken, will agree with me that it would be wiser to give only two places of decimals, and not indicate a degree of refinement which the observations do not warrant. This point being granted (and even if it is not I shall maintain the same line of argument), I submit that the writer of the article is in error in saying on page 44: "Range corrections for pressure and temperature over the region under discussion are not yet accurately enough known to justify the committee in 'correcting' the results on the large chart by hypothetical corrections."

The daily range of the barometer in the very square under notice was investigated under Admiral Fitzroy's direction, and the results were published so long ago as 1861, as the seventh number of Meteorological Papers, under the title of "Inter-tropical diurnal range tables of the barometer."

It is very strange if this publication is unknown both to the author of the work reviewed and to the reviewer, and yet it is so cognate to the subject in hand that there would surely have been some reference to it, had they been aware of what had already been done.

Nov. 25

G. J. SYMONS

Earthquake

AN earthquake was felt at the Cavendish Bridge Brewery, near Derby, on November 13th, at 4h. 10m. P.M.

Mr. G. T. Eaton, who was in his greenhouse, says "the glass was very much shaken." Mrs. Sandford was considerably shaken by a vibratory motion of her chair. Mrs. Eaton's children, who were upstairs, were alarmed. The windows rattled, and the glasses danced on the tables. The sky was dark and threatening, with a slight fall of sleet and snow.

I have delayed sending a report until further evidence could be obtained. It is now certain that the shock extended through Shardlow; and the earthquake was also felt in the neighbourhood at Aston, Castle Donington, and more particularly at Chellaston.

E. J. LOWE

Highfield House, Nottingham, Nov. 24

The Birth of Chemistry

MR. RODWELL writes:—"The Greek name for tin, 'kassiteros' (*κασσιτερος*), was perhaps derived from the *Insulæ Cassiterides* or *Silly Islands*;" but he does not state how these islands came by such a high-sounding name.

I have heard that the root word is Sanscrit, and was known in India before the Phœnicians discovered Britain.

A. H.