

Mallock, as due (in Mr. Mallock's case) to *under-refraction* of rays (as in my case it certainly is due to *over-refraction*), his own experience furnishes a good connecting-link between the "two different, though allied, phenomena." It would be well, however, in order to avoid all uncertainty, that we should know the result, in Mr. Mallock's case, of experiments with an obstacle advanced in front of the eye from a given direction. The experiment with concave or convex spectacles is not quite satisfactory, because it involves a breach of continuity in the observation of the phenomenon.

In concluding that I am "evidently short-sighted," Mr. Backhouse attributes to the whole lens a fault which really belongs only to certain radial portions of the marginal region of the lens. In daylight I see distant objects sharply defined, and that without excessive contraction of the pupil. It is at night, when the pupil is largely dilated and the *marginal* part of the lens becomes exposed to incident rays, that I see radiance around a distant lamp.

These phenomena being necessarily personal to each observer, not admitting of observation by one person for another, and evidently presenting wide differences, it would be interesting to collect and tabulate the facts as described by a number of competent observers. I would suggest that the initiator of this correspondence (Mr. A. Mallock), or some other person, with the approval of the editor of NATURE, should receive and tabulate such facts as may be communicated on this subject, with a view to the publication of the results in a future number of NATURE.

HUBERT AIRY

Blackheath, October 3

An Intra-Mercurial Planet

IF the phenomenon seen by the Hon. F. A. R. Russell was really a transit of this planet, Hofrath Schwabe must have very narrowly escaped witnessing it, for on turning to his MSS. I found the following observation for the date in question:—

"1860, Jan. 29, 9m. (8.11 A.M., G.M.T.).

"Nur die Hauptflecken von 10 deutlich dem Austritte nahe, 11 undeutlich, 12 u. 13 nicht wesentlich verändert."

The numbers refer to the drawing of sun-spots made on the preceding day, indicating also the order in which the spots have appeared since the commencement of the year. No. 10 is a group of spots near the limb, No. 11 a group of very small spots also close to the limb, whilst 12 and 13 are clusters of large spots both of sufficient magnitude to be visible to the naked eye through a fog.

Unfortunately the Photoheliograph was not at work on that day, nor did Carrington make any observations, the sky being cloudy.

G. M. WHIPPLE

Kew Observatory, October 7

Inequality of the Semi-Diurnal Oscillations of Barometric Pressure

WILL you oblige me by publishing the following corrections of certain of the formulæ in my paper on the Inequality of the Semi-Diurnal Oscillations of Barometric Pressure, in NATURE, vol. xiv. p. 316? I regret that the distance of my place of residence has prevented my sending you an earlier notice of the errors.

Formula (2) should stand thus—

$$\tau = V\rho \frac{P}{P} \frac{T}{T} \iota c,$$

"wherein ρ is the density of air at standard pressure P and temperature T_0 , &c."

The same symbol P should be substituted for P in the next formula, and the explanation should run—

"where s is the hypothetical density of water vapour at P and T_0 , and λ its latent heat at temperature T . Substituting for s its approximate equivalent $\frac{2}{3}\rho$,

$$\tau = V \frac{2}{3} \rho \frac{P}{P} \frac{T}{T} \iota \lambda."$$

HENRY F. BLANFORD

Meteorological Office, Calcutta, September 5

Miniature Physical Geology

THE occurrence of miniature earth-pillars (vol. xiv. p. 423) is by no means unusual even in our own country.

I noticed some excellent examples some years ago in the

neighbourhood of Halifax. From a steep exposure of alternating strata of sandstone and shales, the sandstone stood out in broad ledges which received on their upper surface the *débris* from the weathering shale, consisting of mud and plate-like fragments of the shale itself. Under the action of the rain this *débris* had been carved out into perfect pillars, each capped with its plate of shale, and with a numerous progeny of smaller pillars clustering round it, each also with its protecting roof of jutting shale.

Near the Mumbles (Swansea) I visited a limestone quarry at the foot of which lay a talus of soft earth embedding a number of fragments of limestone. Here not only were large earth-pillars from two to four inches high, and in every detail of form resembling those of the Tyrol, to be seen sculptured from the talus, but a heavy shower of rain falling at the time was actually at work producing fresh columns and enlarging the old ones. I had with me at the time, by good fortune, a party of some forty students, and was pleased beyond measure to be able to point out to them these beautiful pillars and the process of their growth. So perfect were they that one gentleman more enterprising than the rest wished to transport one fine group to the safe keeping of a glass case.

But the most striking examples of earth-pillars I have seen anywhere occur in this neighbourhood. The trias, which here frequently consists of a breccia of hard sub-angular fragments of various kinds of rocks embedded in a red sandy marl, is in many localities cut through by the roads, and thus exposed in almost vertical faces of considerable length on the side of the roadway. These faces have very generally been carved out into earth-pillars, which, whilst resembling in all else the Botzen pillars, differ from them in remaining attached vertically to the parent rock by one face, and thus are free on three sides only. This ornamentation of the rock-faces in high relief may be seen continuously for many yards, I should think for hundreds, and it is permanent from year to year. No one walking from Dawlish to Little Haldon can fail to be struck with its singular appearance, and it is especially well exhibited on the right hand bank of the road skirting the north-east side of Luscombe grounds. The ordinary earth-pillars, free on all sides, may also be occasionally noticed in great perfection. After last year's heavy rains I saw several measuring 3 inches high and 2 inches broad at the summit: in one case the capping was not of stone, but a piece of growing moss, which had become detached from a mossy bank by a landslip on a small scale.

W. J. SOLLAS

Dawlish, Devons

The Claywater and Meno Meteorites

THE analyses of these remarkable bodies by Dr. J. Lawrence Smith, as given in the *American Journal of Science* for September, 1876, suggest a new and interesting inquiry in astro-meteorology. These analyses gave the following results:—

	Claywater.	Meno.
Stony matter	78.33	77.76
Metallic particles	17.07	18.00
Troilite	4.60	4.24
	100.00	100.00
Stony part, soluble	47.20	48.70
Stony part, insoluble	52.80	51.30
	100.00	100.00
	Stony part, analysed as a whole.	
Silica	44.98	44.70
Protoxide of iron and alumina	21.95	22.26
Magnesia... ..	29.30	28.97
Lime	1.80	1.85
Soda	1.32	1.20
	99.35	98.98
	Metallic particles.	
Iron... ..	92.15	91.86
Nickel	7.37	7.53
Cobalt28	.13
Copper and phosphorus... ..	Traces of both.	
Specific gravity	3.66	3.65

"In regarding the above comparative statement of the composition of these meteorites," says Dr. Smith, "it will be seen that the compositions of the two as made out by me do not