

suspending wire-fibre. The drop to zero is simultaneous with each flash of lightning. So certain is this relation that we can time the lightning flashes without seeing them. After the flash the needle begins to again move in one direction, repeating its previous behaviour, so that our electrometer measurements seem to prove that every flash of lightning relieves the state of stress of the air, which we may compare with the glass in a Leyden jar, the cloud and ground being the respective coatings.

We may also get at the same result by noticing the effects of the electrification of the dust, smoke, water, and other matter in the air. Whenever our "collector" was "grounded," the fine stream of water issuing from it preserved a certain even rounded form, breaking into drops some four inches away from the place of exit. Removing the "ground" connection, and the stream being now under the influence of the thunder-clouds, the steadily increasing electrification shows itself in the stream's twisting and splitting into innumerable threads and spray; but with each flash of lightning the distortion instantly ceases, and the stream has its normal character, only to be again distorted.

For the benefit of those wishing to photograph lightning I suggest this as a cheap and easy mode of getting warning when to expose. A small tin case with a nozzle giving a fine thread of water or any form of the "burning match" device, well insulated from the ground, and at some elevation, will indicate by changes in the character of the stream or smoke, the approximate degree of the electrification of the air.

New York, U.S.A., June 20. ALEXANDER MCADIE.

#### Upper Wind Currents over the Equator in the Atlantic Ocean.

REFERRING to the remarks of the Hon. Ralph Abercromby on the above in NATURE of May 30 (p. 101), I would ask for the longitude and latitude for the two crossings of the doldrums, to enable one properly to follow, and eventually work out, the facts. For if our famous meteorologist, on the outer journey, passed within one hundred miles of the West Coast of Africa, the great chain of desert lands, extending many hundreds of miles through Asia to the Sahara in the main weather thoroughfare, would, by its influence, very much contract the width of the calm belt, and otherwise draw the doldrum much north of the line to what would be found more to the westward, where, as it neared the American coast, the breadth of the doldrum belt would very greatly increase; so that, unless the doldrum was crossed at the same longitude, the varying atmospheric conditions should not be put down solely to the sun, or difference of December and May seasons.

Perhaps it is from want of the longitude that I am unable to understand "how low clouds from the south-east drove over north-east trades up to 15° north." All else is exceedingly satisfactory with the law of winds, on the supposition that the return crossing of the doldrum belt took place some hundreds of miles further west, and about half that distance farther south, than on the out journey.

If I may be allowed to digress a little, I would refer to the splendid travels by your correspondent, as published last Christmas under the title of "Seas and Skies in many Latitudes," which in some respects, I think, may be compared with the celebrated *Challenger* Expedition. But, singularly enough, while I am able to follow and accept all the author's research and information, I find myself diametrically opposed to his conclusions. Thus, to quote from p. 428, we have: "Hence we see the proof of the assertion that the trades and monsoons do not meet and force one another to rise, and flow back poleward, but that the two winds coalesce and form one great eastern current over the doldrum." To my mental capacity all the proof is the other way about. If the trades of both hemispheres do not ascend over the calm belt, what other escape or vent is there for them? I am aware that the Meteorological Section of the Krakatō Committee of the Royal Society also favour the idea of a great easterly current ever going west at a certain altitude over the doldrums, but so far as I can find out they do not tell us whence it cometh nor whither or how it goeth. In its circuit going west, we naturally look for its return from the east, and with the constant arrival of fresh winds *viâ* the trades of both hemispheres, it must accumulate if it does not flow back poleward quite as fast as it arrives, for we cannot entertain annihilation of atmosphere any more than of matter. If some other way of escape could be found, we should still have to face the question, Whence comes the supply to the "trades if not from

the poles, and whence our prevailing south-westerly winds if not from over the doldrums?"

E. FOULGER.

Liverpool, June 18.

P.S.—I do not call in question "the great easterly current over the doldrum," but rather consider its discovery as extremely interesting, it being just what a small school of meteorologists would expect; and it now appears to be left for them to supply a theory for the cause of the direction and also of the motive power of such an atmospheric passage, and possibly for that of the Krakatō dust.

E. F.

#### Patches of Prismatic Light.

I AM curious to know if any of your readers observed the following phenomenon in the sky, and could give any information as to its nature.

When driving with two friends on Saturday evening, June 22, between 6.30 and 7 p.m., in the neighbourhood of Glatton, near Peterborough, we observed on either side of the sun (the sky being almost cloudless) two patches of prismatic light; they appeared to be of nearly the same size as the apparent disk of the sun, and distant from it a hand's span measured from little finger to thumb at arm's length. At the time there were a few light clouds about, but the prismatic patches were not projected on them, as the clouds passed occasionally in front of them, the patches meanwhile shining through the thinnest parts, and reappearing when the clouds had passed, clearly standing out against the sky. There was no appearance of a continuous arch, as in a rainbow, and, unlike a rainbow, the patches were on the same side of the sky as the sun. I may add that the phenomenon was seen by all three of us, and for half an hour after we first noticed it.

C. S. SCOTT.

Glatton Hall, Peterborough, June 28.

#### A Chimpanzee's Humour.

IN a recent lecture Mr. Romanes is reported as having strongly denied the existence of even a trace of any feeling of the ludicrous in the renowned chimpanzee "Sally." It may be worth while to record a small fact observed by me lately, tending, I think, to favour an opposite view.

Being alone with a friend in Sally's house, we tried to get her to obey the commands usually given by the keeper. The animal came to the bars of the cage to look at us, and, adopting the keeper's usual formula, I said, "Give me two straws, Sally." At first she appeared to take no notice, although she had been eyeing us rather eagerly before. I repeated the request with no further result; but on a second or third repetition she suddenly took up a large bundle of straw from the floor and thrust it through the bars at us, and then sat down with her back to us. Our request was perhaps unreasonable, seeing that we had no choice morsels of banana with which to reward her. She did not, however, seem ill-tempered at our presumption, and the next instant was as lively as ever. It seems to me that her action on this occasion certainly came very near to an expression of humour. Rather sarcastic humour perhaps it was, but she certainly appeared to take pleasure in the spectacle of something incongruous, and this surely lies at the base of all sense of the ludicrous.

HAROLD PICTON.

July 1.

#### PROF. HUXLEY AND M. PASTEUR ON HYDROPHOBIA.

ON Monday afternoon the meeting called by the Lord Mayor to hear statements from men of science with regard to the recent increase of rabies in this country, and the efficiency of the treatment discovered by M. Pasteur for the prevention of hydrophobia, was held at the Mansion House. Much excellent work was done. Several letters were read from those who were unable to attend. Among these letters was the following from Prof. Huxley:—

"Monte Generaso, Switzerland, June 25, 1889.

"MY LORD MAYOR,—I greatly regret my inability to be present at the meeting which is to be held, under your