recorded in their journal, the *Indian Forester*, and the behaviour of the clumps is being carefully watched, especially as the dying off of the clumps of a species over large areas may mean a serious dearth for several years of the most useful material for the construction of native houses and of many articles of common domestic use. I would therefore invite the attention of those interested in the subject to the pages of the journal mentioned, and I hope Mr. Tingle and others will collect similar information in China. As regards the flowering of cultivated species in the gardens of this country, some very useful information was given by Mr. Bean, of Kew, in the *Gardeners' Chronicle* for 1903. I am not quite sure that all the flowered clumps of *Arundinaria Falconeri* will die. I have one in my own garden, and I think it is quite likely to live. I recently saw, in a neighbour's garden, a large clump of *A. Simoni* which had flowered and apparently died, but the root-stock is now studded with young green shoots, and they look as if they intended to grow. I think it is because all the culms had been cut away after the flowering.

J. S. GAMBLE.

Highfield, Liss, Hants, August 14.

The Spontaneous Scintillations of Hexagonal Blende.

A SHORT time ago I pointed out in the *Chemical News* (1904, p. 33) that scintillations, similar to those produced by a radium salt, but feebler, can always be observed in hexagonal blende, in the absence of any radium or radium-emanation.

I have recently made experiments in order to determine whether the blende itself is radio-active, and whether such inherent radio-activity is the cause of the spontaneous scintillations.

An electroscope was used with paraffin-wax insulation and a long aluminium leaf. The rate of leak was first determined, and then the effect produced on the rate by placing the blende on the brass plate of the electroscope. Two specimens from a French firm were examined in this way, and showed no effect whatever; they were spread over the plate in the form of powder.

A specimen from an English firm, in the form of a screen 4 cm. square, showed a marked effect, but a piece of writing-paper of the same size produced the same effect; consequently, no radio-activity can be attributed to the blende on the screen. All these specimens showed the scintillations distinctly, and I can only adhere to my original opinion that the scintillations are caused by a spontaneous change in the structure of the crystals.

E. P. PERMAN.

University College, Cardiff.

Sooty Rain.

I SHOULD be glad if any of your readers could explain the following phenomenon:—

It occasionally happens that on still days, usually with light northerly winds, a heavy shower of rain will carry down a black greasy deposit which forms a film or scum on this and other lakes in the district. It is a recognised nuisance to owners of pleasure boats, as, from the adhesive nature of the scum, scrubbing with soap and water is necessary to remove it.

This black deposit has been examined for me by a competent biologist, and contains no products of organic life. It has, in fact, the appearance and oily character of ordinary soot. I have seen a small handful (when dry) scraped up here from the shore. Sooty rain is the exception, and not the rule. In May last there were about eight days of sooty rain, with the wind out of the north-east. During the last three months, though the lake has risen more than a foot, there has been only one sooty rainfall, viz. on August 17, when the wind was again in the north.

Yesterday (Sunday, August 21, 4 p.m.) I had an opportunity of observing the formation of the scum, and was surprised to see how quickly it appeared. The day had been still, with heavy clouds at a considerable height coming up slowly from west-south-west, with an occasional light breeze from the north. At 4 o'clock the wind dropped entirely, and a sudden heavy shower of rain fell which lasted about fifteen minutes.

As soon as the rain began, the surface of the lake appeared broken up into faintly defined dull and bright patches, which in two or three minutes became strongly intensified without losing their original shape. The dull patches consisted of the sooty film, which was easily observable by dipping in a sheet of white paper, to which the soot adhered.

The position of the Lake District in regard to manufacturing centres renders the occurrence of sooty rain under the conditions described rather remarkable. It would be interesting, too, to know why the sooty film should not cover the surface of the water uniformly, instead of in patches. These patches, by the way, are known locally as "tarns," and are supposed to forecast a spell of bad weather.

Coniston, Lancs., August 22.

J. B. COHEN.

Adaptive Colours of Eyes.

SOME time ago Prof. Wallace, of the School of Mines, Kimberley, suggested to me the possible explanation of the difference in colour of the light reflected from the iris of the eyes of different people—that it was in accordance with the natural law of protection against external influences. He pointed out that people hailing from regions where blue light is predominant—Swedes, Norwegians, and sailors, for instance—have blue eyes, whilst near the equator, or in sandy climes such as South Africa, where intense yellow light is experienced, the eyes take a rich dark yellow hue, as those of the Kaffirs and Malays, Italians and Spaniards. The Scotch have blue, the English grey, and the French dark eyes, generally speaking.

I wish to know whether this novel explanation will bear criticism under the searching light some of your readers may be able to throw on the matter.

A. VINCENT NAPIER.

Beaconsfield, Kimberley, South Africa, July 21.

An Optical Phenomenon.

SOME sixteen years ago I observed phenomena which appear to be related to those mentioned by Mr. Hillig on p. 366 of *NATURE*, and by Mr. Walker on p. 396. A disc, in which was a ring of holes, was rotated between the eye and the sky. I saw coloured patches and rings, changing with the velocity of rotation. The appearances vanished as the rate of rotation increased. The colours were pale green and purple. The purple flowed about as if fluid, and the green appeared as islands mottling its surface. It occurred to me that there might be some connection with the visual purple of the retina.

It would be of interest to repeat the experiments, using the different spectral colours, and varying the rates of rotation.

Intermittent stimulation of the retina may give rise to very curious and interesting results.

In the concluding chapter of Mr. Bidwell's "Curiosities of Light and Sight" will be found an account of some remarkable effects produced by intermittent illumination.

Leeds, August 27.

C. T. WHITMELL.

The Constitution of Matter.

HAVING followed the almost brilliant discussions concerning the constitution of matter which took place at the recent Cambridge British Association meetings, I was not a little surprised to come across the following remarks made by Ralph Waldo Emerson in 1867. He said: "The chemists already find the infinite variety of things contained in sixty-six elements; and physicists promise that this number shall be reduced to twenty, ten, five. Faraday declares his belief that all things will, in the end, be reduced to one element with two polarities."

It would be interesting to know exactly the phraseology in which Faraday expressed this belief.

R. W. Emerson merely uses the statement to aid religious views. And yet in several of his writings he has selected almost prophetic utterances concerning science.

C. ALFRED SMITH.

King's College, London, August 29.