tion, though I should say, from the number of flowers fertilised, that other agencies preponderate. E. L. LAYARD

British Consulate, Noumea, New Caledonia, July 31

Intellect in Brutes

I CONFESS I do not see much "intellect" in a snake biting its own tail (cf. NATURE, vol. xxii. p. 40); on the contrary, I consider the creature evinced remarkable stupidity. Perhaps however you will think what I now relate will show that snakes do possess reasoning powers.

Many years ago, while in Ceylon, I lived in a house in "Slave Island," raised on a high platform. The steps up to the door had become loosened, and behind them a colony of frogs had established themselves. One morning I watched a snake (a cobra) creep up, insert his head into a crack, and seize a frog, which he there and then swallowed. But the crack that admitted the thin flat head and neck of the ophidian would not permit of the same being withdrawn when the neck was swollen with the addition of the frog inside it. The snake tugged and struggled, but in vain, and after a series of futile attempts disgorged its prey and withdrew its head. But the sight was too tantalising. Again the head was inserted in the crack and the coveted morsel swallowed, and again the vain struggles to withdraw were renewed. *I saw this repeated several times*, till, gaining wisdom by experience, the snake seized the frog by one leg, withdrew it from its coigne of vantage, and swallowed it outside. E. L. LAYARD

I SEND you the following dog story, the truth of which is vouched for by the young lady who owned the animal. Her pet dog, a black-and-tan-terrier, was well known to the neighbours for his intelligence. He had established a remarkable friendship for a certain kitten, although given to fierce attacks on all others. This kitten was infested with fleas, which, when the dog discovered, he took her by the nape of the neck, in truly parental fashion, and *soused her up and down in a bucket of water*. He would then take her out into the sunshine and carefully pick out the drowned fleas.

A friend of mine, a naturalist, and a very conscientious man, whose word can be implicitly trusted, gives the following, to which he was an eye-witness. His grandfather, then a very old but hale and hearty man, had a splendid Newfoundland. There was a narrow and precipitous road leading from the fields to the house. It was regarded as a very dangerous place. One day when the old gentleman was doing some work about the farm his horse became alarmed and started off with the wagon along this causeway. The chances were that he would dash himself and the empty wagon to pieces. At once the dog seemed to take in the situation, although until that time he had been impassive. He started after the horse at full speed, overtook him, caught the bridle, and by his strength arrested the frightened creature until help could reach him. My friend gives many other stories of this fine dog, and thinks he had a decided sense of humour. I will repeat that both of these tales come to me well authenticated, and I could, by seeking permission, give names and places. W. WHITMAN BAILEY

Broun University, Providence, R. I. (U.S.A.), October 10

Atmospheric Phenomenon

LAST evening (October 21) at 5.45 p.m. I observed four huge radiating arms of faint white light, like the spokes of a gigantic wheel, rising from a centre apparently on the west-south-west horizon, and extending almost to the zenith. I say apparently on the west-south-west horizon, because an intervening house prevented me from seeing the nucleus of the diverging rays. The aspect of the phenomenon was more suggestive of an aurora than anything else I know of, but the beams of light seemed to be quite stationary, and although I fancied their brilliancy increased at one time for a few moments, I cannot be sure. Other fainter rays appeared to me to divide the west-south-west sky with those I have mentioned; but on that point I am also not sure. The sun set at 4.53 p.m., and twilight ended about 6.43 p.m., at which time the appearance I have attempted to describe was no longer visible. The sky was heavily clouded.

I should very much like to know the cause of this (to me) singular exhibition of light. B.

Kentish Town, N.W., October 22

Temperature of the Breath

WITH reference to the high reading, 107°-108°, noticed by Dr. Dudgeon when a thermometer tightly wrapped up in the folds of a silk handkerchief was kept in the mouth for five minutes, might I ask Dr. Dudgeon if he has verified this reading by immersing the thermometer, with a handkerchief tightly rolled round its bulb, in a vessel of water, at say 108°, the temperature of the water being simultaneously taken by a standard thermometer with its bulb uncovered? It seems to me that there is some danger of actually squeezing up the reading of a delicate thermometer when twenty or thirty folds of a silk handkerchief tightly encircle its bulb. F. J. M. P.

October 23

Crossing Rapid Streams

HAVING read some letters lately in your paper on the subject of crossing rapid streams by means of carrying heavy stones, it strikes me that the following may be of interest to your readers. It is an extract from a survey report by Lieut. (now Major) Woodthorpe, R.E., written in 1876, describing the method, which he saw practised by men of the Nàgà tribes, for crossing a deep stream too rapid for their feeble powers of swimming, and about twenty yards wide:—

"Taking large stones in their hands, they waded in up to their necks, and throwing up their legs and lowering their hands, the stones carried them to the bottom, along which they crept on all-fours till they reached the shallows on the other side."

The rough bottom afforded them sufficient hold to withstand the modified current and resist flotation. C.

Mussoorie, September 28

Construction of Telescopes and Microscopes

PERHAPS some of your readers may be able to inform me whether there exists in English or French a work on geometrical optics, in which the author applies himself thoroughly to explain the optical (not the mechanical) construction of telescopes and microscopes. Works like those by Parkinson and Polter stop short exactly where the application of theory to the construction of the best instruments begins. P. C.

September 30

BENJAMIN PEIRCE, F.R.S.

WE regret to have to record the death at Cambridge, Mass., on October 6, of Prof. Peirce of Harvard University, following upon an illness of three months from Bright's disease. Prof. Peirce was the son of a former librarian of the university, Benjamin Peirce, who died in 1831. For the past thirty-five years he has occupied a professorship at Harvard; and as a lecturer, author, thinker, and investigator, has not only ranked amongst the first of a numerous corps of professors, but also among the first of American men of science. Devoting himself originally to mathematics, Prof. Peirce has successively pursued exhaustive studies in all the branches more closely allied to mathematics, and has obtained eminence equally in physics, astronomy, mechanics, and navigation. His numerous investigations in these various departments, while read before various scientific societies, have been published, unfortunately, for the most part in the briefest possible form, and the results of many of his researches are to be found only in the manuals he published on various subjects. As an author Prof. Peirce was highly esteemed upon both sides of the Atlantic, his work on analytical mechanics, which appeared in 1857, being regarded then even in Germany as the best of its kind. His chief works are a "Treatise on Algebra," a "Treatise on Plane and Solid Geometry," "Pure Mathematics," a "Treatise on Sound," "Ocean Lanes for Steamships," "Tables of the Moon," "System of Analytic Mechanics," "Potential Physics," "Linear Associative Algebra," "Analytic Morphology," and "Criterion for the Rejection of Doubtful Observations." As a lecturer Prof. Peirce was highly esteemed in both scientific and popular circles. It is related that in 1843, by a series of popular