on pp. 961-963. These works are all in German, and the only English mathematician whose works are cited is Dr. Salmon, in Teutonic dress.

LETTERS TO THE EDITOR

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts. No notice is taken of anonymous communications.]

[The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to ensure the appearance even of communications containing interesting and novel facts.]

Pollution of the Atmosphere

IN answer to Mr. Joseph John Murphy's letter in NATURE, vol. xxvii. p. 241, stating that the radiation of marsh gas (from the incomplete combustion of coal) would be insignificant compared to that of vapour, I would like to say that their behaviour in the atmosphere is different; the moisture in the air is there, so to speak, on sufferance as long as the pressure and temperature allow it; that is, it is held in suspension by what might be called the capillary attraction of the air of a certain pressure and temperature. If you reduce the temperature you reduce the capacity of air for vapour, first by its reducing the capillary attraction, and secondly, by reducing one of the conditions that makes OH_2 a vapour. If you reduce the pressure, you enlarge the spaces between the molecules and reduce the capillary attraction, if I may apply this term to a gas. This is borne out by the balloon ascents of Mr. Glaisher. At 4 miles high the temperature was 8° , the dew-point was -15° , or a difference of 23° ; at 5 miles it was 28° , and at 30,000 feet he states that there is no doubt that the dew-point is a difference of 50° ; that is, the higher, the less vapour. But this will not be the case with marsh gas, as it is a permanent gas, and being of less density than even vapour, or about half the density of air, there is no reason why it should not be found in larger quantities at greater altitudes; and I think that its effect there would be that in the temperate zones and at the poles it would radiate its temperature of say from -8 at 30,000 to -30 , and produce cold and rain, snow and floods as the storms on the Alps and the floods on the Continent, and in the Tropics to make the nights colder. In fact, it will have a tendency to do the reverse of vapour; vapour retains our heat and shields us from the cold of space. This radiator and absorber will tend to radiate the cold to us or to the vapour in the lower atmosphere, and produce rain and wind.

9, Bootham Terrace, York, January 13 H. A. PHILLIPS

A "Natural" Experiment in Complementary Colours

SINCE I wrote to NATURE last October (vol. xxvi. p. 573) on the above subject, I have been both surprised and gratified to read no less than six communications on the same matter (vol. xxvi. p. 597, vol. xxvii. pp. 8, 78, 150, 174, 241). Only to-day I have received a letter from a German friend drawing my attention to Goethe's observation at Schaffhausen, he evidently being unaware of Mr. W. R. Browne's interesting letter (vol. xxvi. p. 597). My friend goes on to point out that "Gischt" is certainly foam, for in the context Goethe describes how he saw a rainbow in the "Dunst," or mist, thus enabling us to contrast the two words.

The special point of my communication was the excellent illustration, afforded us naturally, of the advantage of toning down the brightness of the white surface, upon which the complementary tint is to be cooked, until that brightness is suitable to that of the exciting colour. In the experience related by me I was unable to see complementary tints in the foam, upon which full sunlight was falling; the glare of light was too strong.

Mr. C. R. Cross (vol. xxvii. p. 150) speaks of seeing them even in strong sunlight on the crests of waves; may not these crests have been in slight shadow, if the waves were just curling over? The example he gives of cloud shadows appearing purple on the ocean illustrates excellently my own observations. The letter from Mr. E. J. Blew (vol. xxvii. p. 241) gives a quotation from Sir C. Lyell, but without further detail I do not feel that much weight can be given to his observation from my special point of view. But I do not at all wish to say that comple-

mentary tints are not visible on a white surface in full sunshine; but theory and my own observations are certainly in favour of the advantage (and this is all I claimed) of a reduction of brightness to a level comparable with that of the exciting colour.

CHAS. T. WHITMELL

8, Maryland Street, Liverpool, January 15

The Comet

IN my letter relating to the September comet, published in vol. xxvii. p. 108, I was guilty of carelessness in copying from my notes the difference of micrometer readings instead of their value in arc. The value of one revolution of the screw is $15''.31075$, and consequently the distances given in my letter should be as follows:—

$$\begin{array}{l} a = 6''.57 \\ b = 16''.90 \\ c = 8''.34 \\ a = 7''.36 \\ b = 16''.51 \\ c = 10''.15 \end{array} \left. \begin{array}{l} \\ \\ \\ \\ \\ \end{array} \right\} \begin{array}{l} \text{November 3} \\ \\ \\ \text{November 6} \\ \end{array}$$

W. T. SAMPSON

U.S. Naval Observatory, Washington, D.C., January 2

The Transit of Venus

WILL you be kind enough to make the following correction in your published report of the times of contact of phases of the transit of Venus. The third contact should be 2h. 39m. 57s. in place of 2h. 38m. 57s. These were both inadvertencies. From a comparison of Mr. Finlay's place at the Cape of Good Hope on September 8, I find that these elliptic elements satisfy the place within 7 seconds of arc in Right Ascension and 1.5 seconds of arc in Declination.

EDGAR FRISBY

U.S. Naval Observatory, Washington, D.C., January 3

Early Coltsfoot

LAST year I recorded (NATURE, vol. xxv. p. 241) Coltsfoot in blossom on January 6, on the sides of the railway near here, probably an unprecedentedly early date. The mild weather lately prevailing induced me to suspect the former early blossoming might find a parallel this year. I saw the plant in flower this morning, near the same spot; one flower-stalk was fully four inches high, so it should have been observed some days previously had sunshine prevailed. Last year the winter was practically over (so far as hard frost was concerned) at the beginning of January. Will this be paralleled by the winter of 1882-83?

R. McLACHLAN

Lewisham, January 12

Baird's Hare

SOME of your readers may be interested in reading the following extract in which mention is made of a fact similar to that found in NATURE vol. xxvii. p. 241, about Baird's Hare. The extract is from the Life of St. Francis Xavier, by H. J. Cole-ridge, S.J. In a letter written from Amboyna in May, 1546, Francis says:—

"In the island of Amboyna I have seen what no one would believe . . . a he-goat giving suck to his young kids with his own milk; he had one breast which gave every day as much milk as would fill a basin. I saw it with my own eyes, for I would not believe it without seeing it. A respectable Portuguese has the goat, and is taking it away, meaning to carry it to Portugal."

T. MARTYR

49, High Street, Clapham, S.W., January 15

The Projection of the Nasal Bones in Man and the Ape

THE form and projection of the osseous frame-work of the human nose being considered by anthropologists of considerable value in a racial point of view, a close comparison has recently been made of the profiles of the external nose of man and the nose-case of the anthropoid apes. It has resulted in the conviction (1) that the absence of projection in the nasal bones of the chimpanzee, the gorilla, and the orang constitutes a distinction of more importance than has generally been assigned to it, and not the less so seems the fact (2) that a slight nasal elevation is