brown glass the purple of the retina was unchanged. I have never seen any corroboration of these assertions, but they are worthy of further consideration. Stimulated by these observations, I painted my face brown with water-colour, and spent many hours on the snow of the Gorner Grät on the same day that about eighty out of a hundred people who were staying at the Riffel Alp went up to witness the first ascent of the season of Monte Rosa. In the evening everyone except myself and my daughter, who had carefully protected herself with a brown veil, was more or less severely sunburnt, whilst the remaining visitors, who had spent the day on the rocks and mountain-sides in the full sun, were untouched. Connected with this is the fact that visitors to the Engadine in winter become extremely brown, as though coloured by walnut-juice, whilst in summer, unless they go on the snow, this is not so, although of course the heat is greater. I have been there in winter and summer, and have had many opportunities of confirming this observation. Then again the very brown colour of the *châlets* is only to be seen at high altitudes where snow is, and even those parts of the *châlets* which by their position cannot receive rays reflected from snow do not become brown. And over the doors of these brown *châlets* in which the cows are kept the wood is invariably white and colourless just at that part which would always have, steaming up, the warm moist breath of the cows, and by this moisture the reflected rays would be intercepted. I think that all these observations bear upon and are related to the question raised by Prof. Ray Lankester.

I have made many other experiments and observations, but for brevity's sake I omit them, as I think I have said enough to show that the subject is a large one, and worthy of consideration. In a comment on Mr. Abercromby's letter above-mentioned, Petrie says, "We should not look at the surface skin, which is constructed to bear local variations of temperature, &c., but at the delicate tissues beneath. White skin," he adds, "is translucent, but black stops out solar energy." It is possible that sunlight reflected from snow may have an influence in producing the improved health of consumptives who remain in the Engadine in winter, and Mr. Abercromby reminds me that the quality of heat which causes snow-burnt is not that which causes sun-stroke. Sun-stroke is very rare (if known at all) on mountains. Equatorial countries—Ceylon, Borneo, West Indies, &c.—are not the worst for sun-stroke; but sub-tropical and semi-tropical dry countries, such as Scinde, North-West Bengal, United States, Italy, &c.

He also says that photography is much slower in equatorial than in these latter countries. The cause undoubtedly is the absorption of violet and ultra-violet rays by water vapour, which is in excess near the Line. Photography is rapid—except for blue sky—at high altitudes.

ROBERT L. BOWLES.

Folkestone, May 23.

Mysterious Sky Lights.

ON turning over some back volumes of NATURE in search of information concerning the spectrum of the zodiacal light, I have discovered something which appears to be interesting and suggestive, viz. several communications describing what the writers supposed to be abnormal displays of the zodiacal light, displays occurring at the wrong time, i.e. near to the periods of the solstices instead of those of the equinoxes, and displays having the wrong shape, lacking the conical outline, but nevertheless nearly in the right place. The most interesting of these letters are from Mr. Maxwell Hall, and dated from Jamaica. He was so much exercised by the heterodoxy of the appearances he observed that he suggested a new theory, and illustrated it by a diagram on p. 204 of vol. vii.

He says in this letter that "for several nights lately the zodiacal light has been exceedingly bright and well-defined, and more particularly on the nights of November 24 and 27; on the evening of the 24th I found an explanation of what had often perplexed me before, viz. the existence of a faint, isolated band of light across the zenith, but as soon as it was dark in the evening, the zodiacal light was distinctly seen to stretch across the whole sky, forming that faint band of light previously observed; I then began to note its position, but the best observations were made on the night of the 27th, when it was most distinct."

The italics in the above are mine. The dates given, November 24 and 27, 1872, are those of the remarkable meteoric shower supposed to be connected with the lost comet, Biela. The grandest display was on the 27th. May not the luminosity

stretching "across the sky" have been due to sunlight reflected from the meteoric matter lying outside of the earth's atmosphere? Such a spurious zodiacal light does not demand our actual plunging into the meteoric stream producing it, but should be observable whenever such a stream exists between us and the sun, its apparent breadth varying with its actual breadth and its proximity to the earth.

On p. 85 of the same volume is a diagram of the Biela

meteor-path showing its relation to the earth's orbit and to the sun. From this, reprinted above, it is evident that the meteors should display a spurious zodiacal light at the time named, and on to that of the winter solstice, and later. In vol. xi. of NATURE, p. 115, reference is made to a letter from Mr. Hind, dated December 7, 1874, in which he points out "that the zodiacal light has been conspicuous for the last few evenings; and for several years past this phenomenon has been much more marked in December and January than about the vernal equinox."

The pages of NATURE and those of some of the older volumes of the *Gentleman's Magazine* contain many records of mysterious streaks and bands and "pillars" of light seen after sunset, variously ascribed to zodiacal light, to aurora borealis, celestial phosphorescence, &c. If I am right in assigning the spurious zodiacal light of the period above named to the Biela meteors, careful observations of such celestial luminosity in relation to other well-known meteor-streams may be very fruitful.

The Grange, Neasden.

W. MATTIEU WILLIAMS.

Curious Apparent Motion of the Moon seen in Australia.

CAN any of your readers explain the phenomenon described in the following extract from a letter received from my daughter residing in Maryborough, Queensland, Australia:—

"We saw such a curious phenomenon on Sunday night, about 10.30. Miss C—, Miss H—, and I were sitting in the balcony, when we noticed the moon apparently dancing up and down. It is on the wane, so looked so extraordinary. The motion was visible only when she was behind a narrow stratum of cloud, and continued at intervals for thirty minutes. I felt quite seasick with watching it, and Miss H. was so frightened; she thought there might be an earthquake coming, so went to bed in her clothes to be ready for an emergency. Our house would soon fall in an earthquake, its walls are thin, and no cellars."

I presume the phenomenon is connected with the varying refrangibility of the atmosphere, perhaps arising from the mixing of hot and cold air; but should be glad of further information.

T. MELLARD READE.

Park Corner, Blundellsands, May 27.

Another Specimen of *Lepidosiren paradoxa*.

IT may interest some of your readers to know that I have lately received another specimen of this rare fish from my friend Dr. J. Barbosa Rodriguez, the energetic Director of the Museu Botanico do Amazonas at Manáos. This is the fifth specimen known. A short notice of the fourth specimen, an adult female of large size, caught in the Igarapé do Aterro near Manáos, also pre-