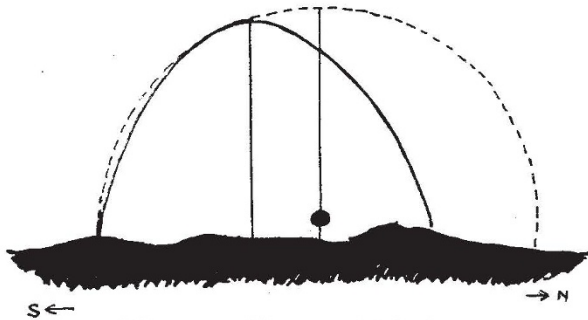


about a few degrees from the horizon (the horizon at the place of observation was not the true one, for a large but not very distant hill intervenes towards the west), there seemed to be suddenly formed a halo of peculiar shape. Its form may be described as nearly, if not quite, parabolic, the axis of the parabola being vertical. Curiously enough, this parabolic form was not symmetrical with regard to the position of the sun, but the latter was situated some distance to the north of the axis. The above phenomenon was observed at about 5h. 50m.-5h. 55m. p.m.

A few minutes afterwards (6h. 5m.), this parabolic form slowly underwent a change, and after a minute or two a circular



Halo at sunset, February 17, 1896, Göttingen.

halo concentric about the sun was distinctly visible. While the concentric halo was in the act of being formed, that portion of the parabolic halo towards the south seemed to maintain its position, but the northern end moved distinctly more north until the position of the sun was half-way between the two. The parabolic form *may* have been caused by the positions of the light fleecy clouds, apparently distorting the halo on the northern side and making the whole appear parabolic; but the change of shape was so considerable, that this explanation seems hardly satisfactory.

WILLIAM J. S. LOCKYER.

Remarkable Sounds.

MR. GODWIN-AUSTEN'S letter in *NATURE* of January 16, reminds me of similar sounds heard at Java in the year 1881. I was then building a railway tunnel through the Gunung Kendang, a range of hills about 100 metres high, situated between the towns of Sukabumi and Tjiandjor, Preanger Regencies, a district where more seismic disturbances take place than in almost any other district of Java.

One morning at about six o'clock, when at breakfast, I was startled by a very loud detonation which made me fear that one of our small vertical boilers at the other side of the works had exploded. I at once sent a man over the hill to ask for information, and received a note from my European assistant stating that no accident had taken place, but that he also heard the detonation and took it for an accidental explosion of some cases of dynamite at Tjiperda, a kampong about six miles from the tunnel, the headquarters of one of the European railway contractors. He at once went thither to see whether any assistance might be wanted, but found that nothing unusual had happened. The contractor, however, told him that at the very moment that we had heard the detonation he had felt a very severe vertical shock of earthquake, but had heard no sound.

In this same tunnel I experienced twice a very severe horizontal shock of earthquake which made a creaking sound in the timbering from end to end in the adits, causing some of the horizontal timbers which had not yet been spiked to fall down. The first time that this happened the coolies bolted, but the second time I managed to keep them in the works to watch the timbering.

TH. DELPRAT.

Malang, Java, February 18.

An Excellent View of the Retinal Circulation.

ON a cycling tour recently, after riding some forty miles with much hill-climbing and against a strong wind, I lay down on a grassy bank facing the east, towards sunset. Viewing the clear eastern sky, I obtained a most remarkable view of my own retinal circulation. A companion also got an excellent view of his own blood corpuscles. The apparent circulation occupied a

considerable portion of the visual field, and a most vivid conception was obtained of the relative slowness of movement in the capillaries. It occurred to me afterwards that the reason of the phenomenon was the hyperæsthesia of the retina, caused by the dilatation of the arterioles, which is a characteristic of excessive cycling. It would be interesting to learn whether others have obtained similar experiences.

JAMES W. BARRETT.

Melbourne, Australia.

Butterflies and Hybernation.

SOME time late in last autumn, a tortoiseshell butterfly took refuge in a small bath-room in this house, established itself on the ceiling, and there remained, immovable, throughout the winter. On the 10th of this month it shifted its position, and on the 12th flew out of the open window. On the 19th, and again to-day, I have seen a tortoiseshell butterfly fluttering about the garden, and should not be surprised if this early rover were the same individual as that which has undoubtedly wintered here. Half a dozen gauzy-winged green flies also hybernated in close company with the butterfly, but they woke up and flew a fortnight or so before the tortoiseshell butterfly stirred.

DAN. PIDGEON.

The Long House, Letherhead, March 24.

Children's Drawings.

AS supplementary to the interesting note in *NATURE* of February 20, on children's drawings, I may mention that some children of my acquaintance show what seems a strong native tendency to reverse right and left in drawing such letters as L and J, making them J and L. It is possible this confusion is akin to that confusion of right and left which one first feels on using a mirror for toilet purposes, as shaving, &c.

Lake Forest, Illinois, March 16. HIRAM M. STANLEY.

"Testacella haliotideia."

ON addressing you some time ago on the subject of Worcester-shire being a habitat of what I regard as this mollusc, some of your contributors applied for specimens. I have now six to give away. One of your contributors doubted whether the specimen I then had was *Haliotideia*, on account of alleged rarity. The same doubt applies now.

Worcester Museum, March 23. J. LLOYD BOZWARD.

An Early Swarm of Bees.

A SWARM of bees on March 23 is, I think, so unusual, that you may perhaps like to be informed that one was taken here yesterday.

A. PAGE.

Tendring, Essex, March 24.

THE MANAGEMENT AND PROTECTION OF FORESTS.¹

I.

PROF. SCHLICH'S important work is approaching completion. The two first volumes were noticed in December 1889 and July 1891.² Of these, it is understood, a new edition will soon be necessary. The third volume, which deals with forest management, is about to appear in a Spanish translation. Vol. iv. is an English adaptation of an excellent German book on forest protection, by Dr. Richard Hess, Professor of Forestry at the University of Giessen. It is the work of Mr. Fisher, formerly Conservator of Forests and Director of the Imperial Forest School at Dèhra Dûn in North-Western India. The last volume will deal with forest utilisation. In the present article, we propose to deal with the subjects of the third and fourth volumes, viz. the management and the protection of forests.

¹ "A Manual of Forestry," by William Schlich, C.I.E., Ph.D. Vol. iii. (pp. xix + 397). "Forest Management," by William Schlich. Vol. iv. (pp. xix + 593). "Forest Protection," by W. R. Fisher, B.A.: (London: Bradbury, Agnew, and Co., 1895.)

² *NATURE*, vol. xli. p. 121; vol. xlv. p. 265.