weakened. It was easy now to see how the fight would end, as the mongoose became more eager for the struggle. It continued to bite the body of the cobra, going round it as before, and soon came again in front, and bit it a second time in the upper jaw, when more blood flowed. This continued for some time, until at last, the cobra being very weak, the mongoose caught its upper jaw firmly, and holding down its head, began to crunch it. The cobra, however, being a very strong one, often got up again, and tried feebly to strike the mongoose; but the latter now bit its head and body as it pleased; and when the cobra became motionless and dead, the mongoose left it, and ran to the jungle.

The natives said that the mongoose went to the jungle to eat some leaves to cure itself. We did not wish to prevent it, and we expected it would die, as it was severely bitten.

In the evening, some hours after the fight, it returned, apparently quite well, and is now as well as ever. It follows either that the bite of a cobra is not fatal to a mongoose, or that a mongoose manages somehow to cure itself. I am not disposed to put aside altogether what so many intelligent natives positively assert.

This fight shows at any rate how these active little animals manage to kill poisonous snakes. On open ground a snake cannot strike them, whereas they can bite the body and tail of a snake, and wear it out before coming to close quarters. This mongoose did not seem to fear the cobra at all; whereas the cobra was evidently in great fear from the moment it saw the mongoose.

Ratnapura, Ceylon, April 11, 1871

R. REID

AUSTRALIAN PREPARATIONS FOR OBSERVING THE SOLAR ECLIPSE

THE following letter has been received at the office of the English Government Eclipse Expedition, from the Government Astronomer at Melbourne:—

"Melbourne Observatory, Nov. 4, 1871.

"My dear Sir,—The Eclipse instruments, copies of instructions, and your letter, reached me safely. Some of the instruments slightly damaged however, though not serious. About half the collodion bottles broken.

"The organisation of the Expedition is not yet quite complete; but a start, I think, is now certain. About 1,000*l.* has been contributed by various Australian colonies:—Victoria, 450*l.*; New South Wales, 300*l.*; South Australia, 100*l.*; Queensland, 100*l.*; and we expect to get 50*l.* from Tasmania. The cost of steamer, &c., will be from 1,400*l.* to 1,500*l.* Twelve or fourteen amateurs have joined, paying 30*l.* each for passage. The voyage will occupy about four weeks, including a week or ten days at Cape Sidmouth. The country at Sidmouth is quite unknown, and inhabited only by Aborigines, who, although not very warlike, are often exceedingly troublesome. Little is known of facilities for landing, &c., but as there are several coral islands in the vicinity, it is possible we may select some of them for observing stations, as they can easily be reached by laden boats. The whole of the coral sea inside the barrier reef is nearly always smooth water, so there cannot be much surf to contend with. The Expedition will have to start from here about the 20th instant.

"Now, about our equipment:—First, we have Grubb's integrating spectroscope, which, by-the-by, was considerably damaged; it had got adrift from its packing, and had evidently made sundry excursions of its own inside its case. Our instrument maker has set this right, and it is now in good working order, and I tried it with the hydrogen spectrum yesterday, and it performs satisfactorily.

"Second, the large field analysing spectroscope came out all right, only one reflector of the kind indicated available, and that altazimuth mounting, Browning 8-inch.

We can hear of no others. We are busy making equatorial mounting for this, but I am afraid we shall have no time to apply clock-work. One five-inch equatorial with its clock-work will be devoted to photographs, for this purpose the telescope will be dismounted and camera substituted, as no good can be done with both.

"Third, Photography. We shall have to confine ourselves to the operations with the camera as indicated in instructions, and we are doing all we can to ensure good results.

"Fourth, Polariscopes work.—The two polarimeters are all right. Prof. Wilson, of our University, has offered to take charge of polariscopes observations; his experience in experimenting on polarised light will ensure this part being thoroughly done if clouds permit.

"I think we thoroughly understand all the instruments and the instructions, and intend to take up such observations which appear from the latter to be most desirable, and for which we have instrumental means.

"We have sets of Kirchhoff's and Angström's maps here, we shall have several hand spectroscopes, opera-glasses, &c., provided for general observations.

"The little tube with the compound spectra of Mg, Ba, &c., appears to require Leyden jar and coil and a strong current, even then I am doubtful if it can be used.

"We take up one or two field instruments to determine position, &c.

"The observing party of Melbourne will number about nine, that from Sydney about six. We can at best only form two observing stations, and those not many miles removed from one another. Sydney observers, under Mr. Russell, will be engaged principally in photographs with refractor and spectrum work (analysing), and possibly we shall be able to arrange some polariscopes for them.

"I shall send you the earliest possible information of our success or otherwise on our return, which will be about Christmas.

"Our chances of fine weather are somewhat doubtful, as the cloudy N.W. monsoon generally sets in about the middle of December; it appears, however, that this seldom fairly sets in till after Christmas, and as the eclipse takes place on the 12th, we have some reason to hope for success.

"We are trying to get a recording spectroscope ready, but I am afraid there is scarcely time to finish it. The small telescope has a loose tube around it, covered with paper. The eye-piece and pointer slip across the field, and are made to do so by a long lever, moved by a pricking frame.

"It is a loose tube forming recording barrel, *bb* is attached to eye-piece by flat spring, *ll* long lever pointed at *a*, *h* slide bar parallel to telescope, *p* pricker frame which slides along *bb* crossing eye-piece and pointer to traverse field (the lever and slide bar are drawn too parallel, they should be more inclined to one another). By moving *p* up and down the slide bar the pointer is made to coincide with a line, and the pricker *p* is pressed—after pricking one set the loose tube is slightly revolved, and a second set obtained. It is nearly complete, but has not been tried yet. I hope you will have good success in India.

"At Cape Sidmouth we shall have 3m. 34s. totality, the sun at an altitude of about 45°, a more convenient position than I thought before the data were computed. Like you, we are working almost night and day to get ready, for it was only a fortnight ago I had authority from Government to organise a party and prepare instruments. Again wishing you the best success,

(Signed) "ROB. L. J. ELLERY

"J. NORMAN LOCKYER, ESQ."