

Monarch was now lying at Dover, where she went to land a visitor and take in stores. Thursday was fine, and after picking up the cable from the buoy, she proceeded to clear it from the lost anchor. The line was coiled four times round the anchor, and could only be released by cutting out the damaged part. This was done, the anchor and chain being recovered, and the end of the cable buoyed. She returned to Dover. On Friday nothing could be done owing to the high wind and sea; but Saturday morning was as quiet as a lamb, the blue sky smiling through fleecy clouds. The *Monarch* was early astir, and although the sea was a little hazy, and a strong easterly breeze blowing, the glass was very steady. The ship had spliced the cable by 20 minutes past 11, and then picked up some 5 miles of cable from the buoy, towards Sangatte, relaying it so as to clear a bight in the Calais-Dover line, arriving off St. Margaret's Bay about 20 minutes past 3 in the afternoon, where she anchored 1000 yards away from the landing-place. A raft was speedily formed with the lifeboats, and the shore end landed in the same way as at Sangatte. It was now getting dusk, but groups of spectators had collected on the beach to watch the operations, and a local photographer, deputed by a London illustrated paper, took a picture of the scene. The end was hauled ashore by the sailors at 10 minutes past 6, and 12 minutes later brought into the cable hut. Lieutenant O'Meara called up St. Martin's-le-Grand and announced the good news. Three cheers were given at the Post Office and in the hut through the land line, and those from London sounded so lustily that the lieutenant declared they had split the drum of his telephone. The end of the cable was then stripped and the sheathing filed off, the rasping of the file being plainly heard in London. The cores were then pared, and the cable connected to a Morse apparatus, by which the hut was put in communication with Sangatte. The French electricians there telegraphed a "hurrah for the telephone," and the work was done.

COCO-NUT BEETLES.

THE destruction of coco-nuts in the Straits Settlements by insects has been so great that of late much attention has been given to the question. Perhaps the most important contribution that has yet been made to our knowledge of these pests is a recent report by Mr. H. N. Ridley, Director of Forests and Gardens at Singapore, on the destruction of coco-nut palms by beetles, which has been printed by the Government and issued from the Colonial Secretary's Office. There are, Mr. Ridley says, two species of beetles which are especially destructive to coco-nut palms. The first is the *Oryctes rhinoceros*, commonly known as the rhinoceros, elephant, or black beetle, and the other the *Rhynchophorus ferrugineus*, known as the red beetle. Two other larger species of Calandra attack some palms at Singapore, but Mr. Ridley has not received any notice of their attacking coco-nuts.

The *Oryctes rhinoceros* belongs to the group of Lamellicornia. The parent beetle usually deposits its eggs in decaying coco-nut trees. The identification of the larvæ is very difficult, for the grubs of all the larger Lamellicorn beetles are very much alike. The larva is white and fleshy, and when full grown is about three inches long; the head is round and hard, and is of a dark chestnut colour. It is covered with short bristles; the legs are about half an inch long; the antennæ are short and hairless, and the jaws thick and strong. The chrysalis has the form of the perfect insect; but the insect is very rarely found in this state. The beetle itself is sometimes two and a half inches long; it is very broad, and is of a dark-brown or black colour, and its chitinous coat is very hard. The head of the male is small, and has a horn, about half an inch long, curved towards the back. The wing-cases do not quite cover the body; they are broad and oblong, and covered over with minute punctures. The legs are strong, and the second joint is armed with teeth, by means of which the beetle cuts its way into the tree. The female is usually much smaller, and is readily distinguishable from the male. The grub is quite harmless, but the perfect insect is most destructive. It always works at night, attacking the base of a leaf-stalk, burrowing into the heart of the cabbage, where, as a rule, it remains all the next day. The attack is generally renewed till the rain finds its way in and rots the palm. The destruction of the tree is hastened by the fact that when once a tree has been attacked it appears to become popular. Besides the coco-nut palm, very many other palms, a list of which is

given by Mr. Ridley, are destroyed by this insect, but, so far as is known, it does not attack other trees. The present methods adopted for destroying the *Oryctes rhinoceros* are described and criticized in the report. The usual mode is to search for the beetles in the palms, and spear them with a flexible iron wire. Large fires are also made in the plantations at night, and the beetles, flying towards the light, are beaten into the flames by men and boys with branches of trees. Mr. Ridley does not hope to exterminate the pest, but he thinks that its numbers can be greatly reduced by destroying in all the plantations rubbish and vegetable refuse of all kinds. Dead trees should be burnt, and the law should prevent any planter from allowing any heap of vegetable matter, in which the insects always breed, accumulating, and also from keeping any dead trees on his land. By this simple measure the ravages of the beetle can be minimized, if not quite abolished.

The second species of beetle spoken of in this report is the *Rhynchophorus ferrugineus*, the red beetle, which is, perhaps, even more destructive than the other. In the case of *Oryctes rhinoceros*, it is the perfect insect which is destructive; in the present instance, it is the grub. It attacks the trees at night, and having perforated the base of the leaf-stalk, it pushes the egg deeply into the body of the tree. The grub is white and footless, and tunnels through the soft portion of the palm. Unfortunately the presence of this insect in the tree is not so easily detected as in the former case. The grub is a thick, cylindrical, white larva, without feet or antennæ. The head and jaws are small, and the body curved and wrinkled. The perfect insect is usually about two inches in length. The head is small and usually red; the wing-cases are black, sometimes ornamented with red, and a good deal shorter than the body. The legs are black and long, and have a strong claw at the end of the second joint, and two small ones on the feet. The methods of destruction used by the planters are very similar to those used in the case of the rhinoceros beetle, but on account of the difficulty of tracing the red weevil they are not so efficacious. If the black beetle is much reduced in numbers, the effect will be to reduce the red beetle also very much, for the latter will not then be able to take advantage of the holes which have already been made by the former. In dealing with this beetle also, the report urges the necessity of making the destruction of all vegetable refuse compulsory, particularly in the neighbourhood of the palm plantations.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

CAMBRIDGE.—The General Board of Studies have re-appointed Mr. J. E. Marr, Sec.G.S., Fellow of St. John's College, to the Lectureship in Geology, for five years from Lady Day.

The subject of the Adams Prize Essay of 1893 is "The Methods of Determining the Absolute and Relative Value of Gravitation and the Mean Density of the Earth." Candidates must be graduates of the University. The value of the prize is about £170.

Mr. S. F. Harmer, Fellow of King's College, has been nominated to the use of the University table at the Naples Zoological Station.

The Mechanical Workshops Enquiry Syndicate have issued an important memorandum, setting forth a scheme of practical and theoretical instruction in engineering within the University; and state that a sum of £20,000 will be needed for the establishment and equipment of the necessary laboratories. As the funds are not to be had in Cambridge, they propose to make an appeal for benefactions outside the University.

The Agricultural Education Syndicate have issued a voluminous report, containing a complete plan of education and examination in agricultural science and practice, leading either to the B.A. degree or to a diploma in agriculture. It involves the formation of a Board of Agricultural Studies, and the foundation of readerships or lectureships in agricultural botany, chemistry, physiology, &c. Without the amplest pecuniary assistance, the plan is likely to fall by its own weight, but the Syndicate plainly indicate their expectation that adequate subsidies will be forthcoming from the County Councils and from the Government. The report is signed by the fourteen members of the Syndicate, including the Vice-Chancellor, Lord Hartington, Lord Walsingham, Canon Browne, Profs. Liveing and Foster, and Mr. Albert Pell.