end of his interesting paper, gives a list of the seventeen or eighteen species which are known to him, or which are recorded as possessing this power. It is extremely probable that the more the subject is investigated, the more commonly will it be found to exist. J. P. E.

RESULTS OF SANITARY IMPROVEMENT IN CALCUTTA

WHEN a great public work is being done, it is a duty to call attention to it. In March 1862, Prof. Longmore, of Netley, who had acted as Sanitary Officer during the Mutiny at Calcutta, gave the following evidence before the Royal Commission on the sanitary state of the Indian Army :—"As regards the chief part of this extensive city (Calcutta)—that inhabited by the native population—the pestilential condition of the surface-drains and yards, and many of the tanks among the huts and houses, would not be credited by any one who had not been among them." In the "Report on Sanitary Improvements in India up to June 1871," recently printed by the India Office, is given a table showing that the cholera mortality in Calcutta had, for twenty years preceding 1861, averaged nearly 5,000 deaths per annum. In 1860 the cholera deaths were 6,553, and in 1866 they were 6,823. About this latter date works of drainage and water supply were commenced and have been gradually extended. Water is taken from the Hooghly and thoroughly filtered—it is then conveyed in pipes 12¾ miles in length to a reservoir in Calcutta and thence distributed. The whole population had this benefit conferred on them in the beginning of 1870, from which date the use of foul tank and river water was discontinued.

The drainage works are as yet confined to the southern districts, the sewage from which is conveyed to an outfall at the Salt Lake, and will be passed over a square mile of reclaimed land there, for irrigation of crops. The mortality from cholera in 1870 was 1,563, and the general mortality has fallen year by year with the extension of the works. Last year (1870) the death-rate was 23·4 per 1,000, considerably less than half what it was in 1865.

At a Social Science meeting held in Calcutta last March, a native physician, Dr. Chuckerbutty, gave his experience of the sanitary results as follows :—"I am in the habit of visiting, in the pursuit of my profession, the houses of the rich, as well as of the poor, in both divisions of the town, and I frankly confess that in the southern division, wherever the drainage works have been brought into play, the dwellings even of the humblest cottagers are in an infinitely better sanitary state than the mansions of the richest millionaires in the northern division where the drainage operations have not been extended. Before the completion of the water-works and the partial operation of the new drainage works, the mortality in Calcutta from dysentery, cholera, and fever, was most appalling. In 1865 dysentery was so common and fatal that sloughing cases of it were of daily occurrence. Such cases are now rarely to be seen. My annual share of cases of cholera in the Medical College Hospital before the completion of the new water-works was about 700, and I declare to you that, during the last eight months, I have scarcely had a dozen cases of that disease. Fever, too, has decreased during the same period in a like manner." The actual deaths from cholera in April, May, and June, of the present year were 85, 29, and 26, respectively.

After such results as these, we need not feel surprised that the Justices of Calcutta, a large proportion of whom are enlightened native gentlemen, decided unanimously last August to extend the drainage works all over the city, notwithstanding the opposition on purely theoretical grounds of certain British medical officers who ought to have known better, to the use of ordinary house drainage for Indian houses.

The opinion of the Army Sanitary Commission on this subject is quoted as follows in the India Office report :—"The municipal authorities of Calcutta and their officers have set an example of enlightened administration and effective expenditure to other Indian municipalities, which it is hoped will be followed. There are indeed few cities anywhere which can show so much good work done in so short a time and with such promising results for the future."

The laws of nature are the same everywhere. Calcutta has in times past suffered as London used to do from fatal fevers and bowel diseases, and there is now every prospect that a few years of active work will remove this stigma from the capital of the East, as it has been removed from the metropolis of the British Empire.

NOTES

THE following telegrams respecting the Total Eclipse of Dec. 12 have been received since our last :—"From the Governor of Ceylon to the Earl of Kimberley, dated, Colombo, Dec. 12, 10.45 A.M. :—'A telegram from Jaffna states that splendid weather prevailed during the eclipse. Most satisfactory and interesting observations have been made.'" "Mangalore, Dec. 16.—The eclipse observations have been very successful. The extension of the corona above hydrogen apparently small. Five admirable photographs have been taken." From Mr. Davis, photographer to the English Eclipse Expedition, through Lord Lindsay :—"Mangalore, Baikul.—Five totality negatives ; extensive corona ; persistent rifts ; slight external changes." The French Academy of Sciences has received from M. Janssen the following telegraphic despatch, dated Octacamund, December 12, 5h. 20m. :—"Spectre de la Couronne attestant matière plus loin qu'atmosphère du Soleil."

WE can hardly credit the report which has just reached us that the Treasury has, at the last moment, declined to sanction the expenditure of public money on the publication of the Eclipse Reports of 1860 and 1870. We understand the combined report is now nearly ready, and both Parliament and the nation are entitled to receive a statement of the manner in which the public money has been expended. There are innumerable cases which may be cited as precedents for the publication of similar documents by the Government ; as, for example, the Survey of Sinai, and the annual Greenwich Reports of Observations. After the Government has so generously granted money for recent scientific observations, we can hardly believe that the spirit of parsimony will so far prevail at the last moment as to mar, in this manner, the services it has performed towards Science.

THE death is announced on October 10, in Nicaragua, of fever, of Dr. Berthold Seemann, one of our most enterprising travellers and naturalists. Born at Hanover in 1825, Dr. Seemann was, in 1846, appointed naturalist to H.M.S. *Herald*, in its survey of the Pacific, during which voyage he had the opportunity of exploring, more thoroughly than almost any other European, the Pacific countries of South America and the Isthmus of Panama. In the same vessel he subsequently visited the Arctic regions, and the "Narrative of the Voyage of H.M.S. *Herald*," by Sir John Richardson and Dr. Seemann, is an important contribution to the natural history of previously little-known regions, the portion contributed by the latter comprising an account of the flora of Western Eskimo-land, north-western Mexico, the Isthmus of Panama, and the island of Hong-Kong. In 1860 he was sent by the English Government to the Fiji Islands, then lately acquired, and on his return published two works, one containing a narrative of his mission, the other, under the title of "Flora Vitiensis," a history of the vegetable productions of the islands. Since 1864, he has been greatly interested in the mining capabilities and other resources of the