

was one vast field of blackened and lifeless coral stems, and of the vacant and lusterless shells of giant clams and other mollusks, paralyzed and killed in all stages of expansion. Everywhere both shells and corals were deeply corroded, the corals especially being in many places worn down to the solid base. Since the catastrophe there has been, till almost the date of my visit, no signs of life in that portion of the lagoon; I saw only a very few fishes, and only here and there a new bunch of *Madrepora* and *Porites*."

A similar field of dead corals was observed in this lagoon during the visit of the *Beagle* in 1836. The destruction of the corals was accounted for by Darwin, by assuming that Southeast Island had at one time been divided into several islets by channels whose closing up had prevented the water in the lagoon from rising so high as formerly; and that, therefore, the corals, which had attained their utmost possible limit of upward growth, must have been killed by occasional exposures to the sun. This statement is cited by Forbes who, judging from the fact that an earthquake took place at the Keeling Islands two years before the visit of the *Beagle*, considers it very probable that an eruption of poisoned water, like that of 1876, may have been brought about by the earthquake, and may have caused the death of the corals observed by Darwin.

Mr. Forbes thinks that an earthquake took place at the time of the cyclone in 1876, although no tremblings of the earth were noted by the people on the island. He considers "the waves, as well as the darkened waters which were issued, doubtless from a submarine vent, as almost certainly the result of volcanic disturbance in close vicinity of the atoll." It seems to the present writer, however, that this hypothesis is but poorly sustained by the facts observed. A similar rising of the waters is recorded in connection with other cyclones. Chain Atoll, in the Low Archipelago, was completely devastated by a hurricane in 1825, during which not less than 300 lives were lost. Thus in two instances, the agitation of the sea about atolls during great storms has been so great as to suggest earthquakes, yet no shaking of the land was recorded in either instance. The only safe conclusion, therefore, seems to be that extremely violent storms are capable of causing the sea to rise to a much greater height than had been supposed. On the other hand, certain writers, who consider that earthquakes may be brought about by a diminution of atmospheric pressure, might claim these as striking illustration of their hypothesis, providing positive evidence of the occurrence of earthquakes in connection with the storms could be had.

The eruption of this colored water, charged with

sulphuretted hydrogen etc., in the lagoon of the Keeling Islands, might perhaps be accounted for, by assuming that the relief of atmospheric pressure, during the cyclone, allowed the gases originating from the decomposition of organic matter imprisoned in the mud of the lagoon to rise to the surface. As the atolls are entirely of organic origin, it seems by no means improbable that organic matter in a state of decomposition might occur in the mud beneath the lagoon in quantity sufficient to account for the phenomena observed.

Another cause adequate to destroy mollusks, coral polyps, etc., in the lagoon of an atoll, is furnished by rain, which frequently freshens the water, as has been noted by both Darwin and Forbes.

THE NIPON CENTRAL EDUCATIONAL ASSOCIATION.

THE main object of this association is to promote the interests of education and science in Japan. Its regular meetings are held monthly in the Lecture hall of the Tokio university, and at these times a lecture is usually delivered by some prominent member, or papers upon educational or scientific subjects are read. There is a standing committee whose duty it is to give all possible information sought on the part of the local associations or others.

The association publishes monthly bulletins, which are distributed among its members. These bulletins contain reports or reviews of the lectures delivered and papers read at the regular meetings, and also other papers upon educational and scientific matters. The number of members of the association is, at the present time, about four thousand; and it is a matter of congratulation that the number is monthly and yearly increasing. The government recognizes the association as one calculated to promote the interests of education and of science in general, and annually votes it a money appropriation or subsidy.

EXCAVATION OF THE TEMPLE OF LUXOR.¹

OF all ruins, or groups of ruins, in the land of Egypt, the temples and tombs of 'hundred-gated Thebes' stand foremost in majesty, variety and number. Here six great temples mark the site of a city, which for many centuries was the capital of the known world. Of these six temples, the four on the left bank are known to travellers and readers of travels as Goornah, Dayr-el-Baharee, the Ramesseum, and Medinet Haboo; the two on the right bank being Karnak and Luxor.

By far the most accessible, and consequently

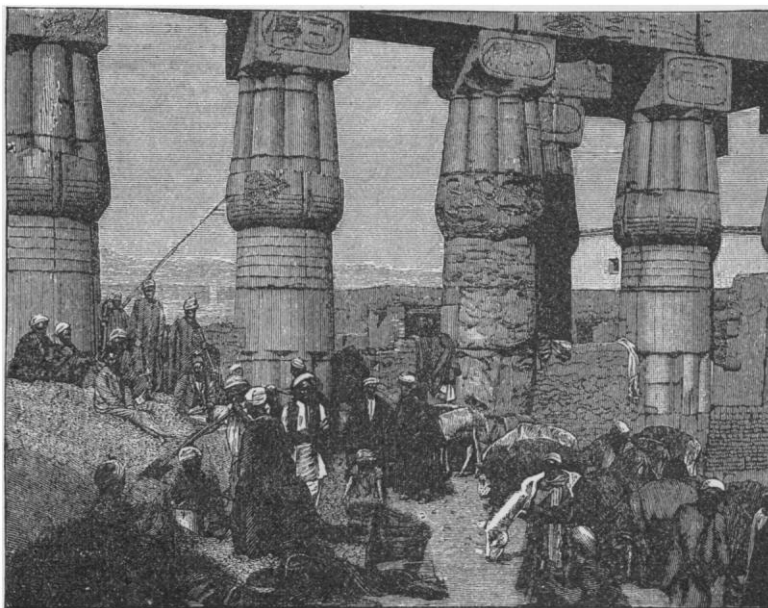
¹Condensed from the *Illustrated London news*.

the most familiar, of these half-dozen Theban temples, is the great Temple of Luxor, which has just been excavated by Professor Maspero. Yet, till now, Luxor has not in itself been nearly so rich in objects of interest as any of the neighboring sites. Not only was the great temple three-fourths buried under the accumulated rubbish of ages, but its courts and colonnades formed the actual nucleus of the Arab half of the modern village. The Moslem population has settled, apparently from mediæval times, in and around the temple, at the southward end of the mound. Here, building always with mud bricks crudely dried in the sun, each generation erecting its congeries of hovels on the ruins of the hovels made by its predecessors, the Arabs of Luxor have gone on from century to century accumulating rubbish upon rubbish and mud upon mud, till they have thrown up an artificial hill some forty-eight or fifty feet in height. As the hill rose, the temple necessarily became swallowed up.

To sweep away all these barracks, stores, houses, huts, pigeon-towers, stables and refuse-heaps, has been the earnest desire of Professor Maspero, ever since his acceptance of the important post left vacant, in 1881, by the death of Mariette Pasha. He obtained from the Egyptian minister of public works the necessary authorization for treating with the fellaheen, the basis of the negotiation being that each squatter should receive a cash indemnity for his house and a piece of land equivalent in extent to the area covered by the said house and its dependencies. It was further arranged that the Egyptian government should find the money for the liquidation of the indemnities. Some of the temple-folk would sell, and some stoutly refused to be bought out, except upon such terms as made negotiation well-nigh impossible. Meanwhile, there was another financial question to be settled,—namely, the expenses of excavation. The Egyptian government had paid the indemnities, and could do no more; yet, to get

rid of the squatters was of little avail so long as there remained fifty feet of soil to be cleared and carted away. A subscription, simultaneously started in the *Journal des débats* and the *London Times*, met, however, with so liberal a response (especially in Paris), that this question of ways and means was settled in two or three days, and in the month of July, 1884, the order was given to commence operations.

Our illustration shows the courtyard of Amenhotep III. with the excavations in progress. We here find ourselves admitted into the precincts of the courtyard, immediately behind the government store-house, of which one corner and a small



EXCAVATIONS GOING ON IN THE COURT YARD OF THE TEMPLE OF LUXOR.

window are seen between the pillars to the right. The spectator stands with his back to the Arabian chain and his face to the Libyan range, one long spur of the great western mountain and a glimpse of the Nile being visible behind the highest group of Arabs to the left of the picture. The mud huts, the mud walls built up between the columns, the asses, and goats, and village folk, are still in part occupation of the place. To the left, however, a hovel or two have been demolished; and, on the rubbish heap thus created, we see a group composed of two Europeans and some five or six better-class natives.

—The *Athenæum* states that “somewhat late in the day the inhabitants of Syracuse have erected a monument to Archimedes.”