saying ethylic phenylacetate, and ethylphenylic acetate.

It is further remarked that of late years chemists have not been sufficiently careful in applying numerical designations to substances; thus arsenious oxide is sometimes called arsenic trioxide, although the formula of gaseous arsenious oxide is As_4O_6.

The committee considers at some length the nomenclature of acid salts, of basic salts, of sulphur salts and of double salts, pointing out some inconsistencies, suggesting some changes and proposing, very sparingly, new terms. Being the third report, many topics treated previously are not touched, and the report is consequently not very wide-reaching.

In this connection, we remark that the London chemical society, a few years ago, issued to the abstracters for its journal a series of instructions on chemical nomenclature and notation, which have been of the greatest service in securing uniformity in writing chemical language. American chemists are largely following the instructions and simple rules there laid down; and, so far as the English language is concerned, a commendable uniformity and perspicuity already obtains.

H. CARRINGTON BOLTON.

POISONOUS WATERS IN THE COCOS OR KEELING ISLANDS.

IN a recent book of travel[1] from the pen of Henry O. Forbes of Aberdeen, Scotland, an account is given of a visit to the Cocos or Keeling Islands, which contains some new facts bearing on the history of coral islands that are specially interesting, as they supplement the studies of Charles Darwin at the same locality. The Keeling Islands, as they are usually called, are situated in the Indian Ocean about 800 miles southwest of the Straits of Sunda. They were visited by Darwin in 1836, and by Forbes in 1878. It was while exploring these islands that Darwin's well-known hypothesis of the formation of coral reefs and atolls first suggested itself.

One of the most instructive portions of Mr. Forbes's observations relates to the rising of poisonous waters in the lagoon enclosed by the Keeling Islands, immediately after a cyclone which occurred January 28, 1876, a description of which was furnished by Mr. G. C. Ross, the present proprietor of the islands.

On the 25th the mercurial barometer indicated some unusual atmospheric disturbance, and the air felt unusually heavy and oppressive. On the 28th it fell to close on 28 inches, a warning which gave time for all boats to be hauled to a place of safety, and other preparations for a storm to be made. On the afternoon of the same day there appeared in the western sky an ominously dark bank of clouds, and at 4 P.M. a cyclone of unwonted fury burst over that part of the Indian Ocean. About midnight on the 28th the sea rose suddenly, and rushed inland more than 150 yards from high water mark. The storm attained its greatest height about one o'clock on the morning of the 29th. At that hour no object raised a foot or two above the ground could resist its fury. The inhabitants saved themselves only by lying in hollows of the ground. To what distance the barometer might have fallen it is impossible to say, for the mercurial was carried away; two aneroids gave it at 26½ inches.

The following morning broke bright and calm, but not a speck of green could be seen anywhere within the compass of the islands. Round the whole atoll the solid coral conglomerate floor was scooped under, broken up and thrown in vast fragments on the beach. On the eastern shore of Home Island, Mr. Forbes observed a wall of many yards breadth, portions of which had been thrown up clear over the external high rim of the island, and several yards inward among the cocoanut trees.

About 36 hours after the cyclone the water on the eastern side of the lagoon was observed to be rising up from below of a dark color. The origin of the spring, which continued to ooze out for about ten or fourteen days, lay somewhere between the north end of New Selima and the north end of Gooseberry Island. Its color was of an inky hue, and its smell 'like that of rotten eggs.' From this point it spread southwest as far as the deep baylet in Southeast Island, where, meeting the currents flowing in at the westward and northern entrances, which run, the one round the western, the other round the eastern shore of the lagoon, its westward progress was stopped; whereupon, turning northward through the middle of the lagoon (becoming slightly less dark as it proceeded) it debouched in the ocean by the north channel. Within twenty-four hours every fish, coral and mollusk, in the part impregnated with this discoloring substance —probably hydrosulphuric or carbonic acid—died. So great was the number of fish thrown on the beach, that it took three weeks of hard work to bury them in a vast trench dug in the sand.

At the time of Mr. Forbes's visit the islands were slowly recovering from this sad disaster. He carefully examined that part of the lagoon over which the poisoned waters flowed, and described its effect as follows: "The whole eastern half of the lagoon

[1] *A naturalist's wanderings in the Eastern Archipelago.* A narrative of travel and exploration from 1878 to 1883. New York, *Harper*, 1885. 8°.

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 dimunition 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

[1]Condensed from the *Illustrated London news.*