Microsauria and Dendrerpeton.

IN the notice in NATURE of January 12 (p. 244) of Fritsch's new number of his excellent work on the Permian fauna of Bohemia, which has not yet reached me, I observe a reference to *Microsauria*, which would seem to imply that I had included *Dendrerpeton* in that group. Possibly this was not intended by the reviewer, as it certainly could not have been intended by Fritsch, who knows my views quite well; but in case it should be misunderstood I beg to say that I have not held this view, but on the contrary have confined the name Microsauria to species with simple teeth, and have placed *Dendrerpeton* with Labyrinthodonts, though by no means as a typical genus of that group. In my last paper on this subject (Trans. Royal Society, 1882), I expressly exclude the two species of *Dendrerpeton* referred to from Microsauria, and define the latter as having non-plicated teeth (pp. 634-35). I may add, however, that I have always held and now hold that the Microsauria, though in some respects inferior to Labyrinthodonts, embrace in their structures premonitions of the true reptiles not found in the latter.

The study of these creatures was one of those bye-efforts thrust on me by circumstances, and which I have closed up so far as I am concerned in the paper referred to; but I have learned to love the little Microsaurs and to regard them as a hopeful and prophetic group. J. WM. DAWSON.

McGill College, January 26.

A New Historic Comet?

PERMIT me to inform Mr. Knott that the "new historic comet" is not a new comet at all. He will find it as No. 154 in Mr. Chambers's Catalogue No. II. in his well-known "Handbook of Descriptive Astronomy." It is there described, 302 A.D. "in May–June a comet was visible in the morning—(Ma-tuoan-lin: Williams 26)." W. H. S. MONCK.

Dublin, February 10.

The Proposed Teaching University for London.

NO one, I am sure, who has carefully read my letters in the *Times* on this subject could agree with the writer of your article that I appear "to consider the dispute as one between the efficiency of 'lectures' on the one hand, and of 'reading' on the other."

The writer of the article has certainly misunderstood my views "upon the matters in dispute," as well as my object in quoting Darwin's dictum on the advantages of "reading" as compared with "lectures." PHILIP MAGNUS.

Exhibition Road, London, S.W., February 10.

Institute of Chemistry.

WITH reference to a circular letter dated the 12th inst., and bearing the signature of Mr. W. Thomson, which has been sent to the Fellows of the Institute of Chemistry, we beg that you will be so good as to allow us to inform the Fellows, through your columns, that we have not been consulted in regard to the action taken by Mr. Thomson, and that we decline to offer ourselves as candidates for election in opposition to the nominations of the Council. BOVERTON REDWOOD.

London, February 20. ALFRED GORDON SALAMON.

CORAL FORMATIONS.

I DESIRE to call attention to a condition of reef that I think has been very little studied, but that may contain a clue to a solution of some of the difficulties that still surround the subject of coral formations generally.

I may as well at once avow myself to be one of those who, on reviewing the later evidence on coral growth, have come to the conclusion that it is sufficient to justify an abandonment of the supposition that subsidence plays a principal part in the production of barrier reefs and atolls, but are at the same time not satisfied with one part of the explanation offered by Mr. J. Murray.

I refer to the great effects attributed by him to the disintegration and solution of dead coral by the chemical action of sea-water, in hollowing out and deepening the large and deep lagoons inside both these classes of reefs.

Mr. Murray's theory on this point, as summarized by himself, is that—

"(1) When coral plantations build up on submarine banks, they assume an atoll form, owing to the more abundant supply of food to the outer margins, *and the removal of dead coral rock from the interior portions by currents and by the action of the carbonic acid dissolved in sea-water.* (2) That barrier reefs have built out from the shore on a foundation of volcanic debris, or a talus of coral blocks, coral sediment, or pelagic shells, and *the lagoon channel is formed in the same way as a lagoon.*"

The italics are mine, and indicate the part of his theory to which from my view, and, I believe, that of others, there are objections, but to which Mr. Murray attaches considerable weight.

Is it necessary thus to invoke the aid of dissolution of the dead coral by chemical action as an important agent in the formation of these deep lagoons and channels? I think not.

An examination of the forms of, and depths on, well-surveyed submerged banks in different regions reveals a considerable number of reefs, which, if their development continues on the same lines as apparently heretofore, must, in the course of time necessary to bring them to the surface, form perfect atolls of large size, inclosing deep lagoons, without any further scooping out by solution.

Many instances occur in the China Sea. The Tizard Bank, in lat. 10° 20′ N., and long. 114° 25′ E., is 32 nautical miles in length, with an extreme breadth of 10 miles, and was well surveyed in 1867. The central portion is very flat and almost void of patches. Its depth is from 30 to 47 fathoms. Its edge is crowned with a coral rim varying from 4 to 10 fathoms in depth, broken here and there by openings, in some cases over 30 fathoms deep. The bank rises steeply from deep water, but, as no sectional soundings were taken, the precise angle of slope is unknown. The rim is composed of coral in luxuriant growth, and it can scarcely be doubted that in time it will reach the surface. In fact, on its periphery of 100 miles, in eight places small patches of reef, three of which bear islets, have already done so.

When the remaining portions of the rim are also awash, the reef will be in all respects an atoll similar to the great Maldive atolls, without any necessity for solvent action enlarging or deepening it.

Eight other banks of similar character, and in various stages, occur not far from this reef.

The great Macclesfield Bank, farther north, over 70 miles in length, and 40 miles in width, is of precisely the same nature, but its development is not so far advanced; the rim being in no spot nearer the surface than 10 fathoms, the water on it varying from that amount to 19 fathoms, while the depth of the inclosed area is from 40 to 60 fathoms. The survey of this bank is not so complete as in the case of some others, but enough has been done to show its character very plainly.

The Prince Consort Shoal (300 miles S.W. of the Tizard Bank) is apparently at a still earlier stage, a few patches of 17 fathoms and a considerable area of 30 fathoms partly inclosing a central area of 40 fathoms depth. The great Seychelles Bank in the Indian Ocean, 200 miles by 100, is very imperfectly known, but in most places the lines of soundings over its edge exhibit this tendency to form a rim. Here, however, the general depth on the bank is not over 30 fathoms. The Amirante Bank is a similar example.

The evidence afforded by these reefs has probably escaped notice from the fact that as published in charts for the purpose of navigation they are mostly shown on a very small scale, in which their character is scarcely apparent. The original manuscript surveys in the records of the Hydro-