synonymy of the species mentioned, Mr. Fowler has committed an assault upon typographical custom which ought almost to have caused a strike among the printers and must have excited the disgust of the proof-reader. Such a monstrosity as '*C.(ephaloptera) vampyrus,*' or even '(*Raja.*) *Manatia,*' unhappily, is not unparalleled, but because it is not, and a bad example had been set before, a protest now is all the more timely. Some deference should be paid to the reader, and if he is not intelligent enough to know that *C[ephaloptera] vampyrus* is the full expression of *C. vampyrus,* and that the bracketed letters were substituted for the period, indicating abbreviation, he certainly would not be intelligent enough to appreciate any part of the article in question. Such flagrant abuses of typographical methods should not be tolerated. The first volume of an otherwise excellent work by a distinguished naturalist was recently published marred by similar blemishes, but the author relieved himself of such eccentricities in the succeeding volume. It is to be hoped that Mr. Fowler will profit by the later example in the same measure as he was misled by the former.

It is proper to add that Mr. Fowler and his predecessor were simply actuated by a laudable desire for perfection of quotation in their strange typographical devices, but surely there should be some limit to deviation from customary methods and to pandering to ignorant and incompetent students.

Theo. Gill.

Cosmos Club, Washington.

THE NEW MEXICO NORMAL UNIVERSITY.

The whole faculty of the New Mexico Normal University resigns at the end of the present school year, under circumstances which should be widely known. Predatory organizations of a political character exist in New Mexico as elsewhere, and it is in the nature of things that they should interfere in various ways and degrees with educational institutions. During my connection with the New Mexico Agricultural College (1893–1900) I had many opportunities for learning the character and motives of this interference, and the time may come when it will be expedient to tell the story in some detail. Some idea of the prevalent conditions may be gathered from the fact that within a period of eight years (1894–1901) the college had five successive presidents, namely, Hadley, McCrea, Jordan, Sanders and Foster. In spite of everything, a great deal of good and useful work was done; but it was lamentable to see the waste of opportunity, time and money resulting from the actions of self-interested, ignorant and prejudiced people. I have before me copies of the letter of Dr. Sanders, fourth president of the college, to his board of regents, and of his second annual report, both written in 1901. In these carefully prepared and exceedingly outspoken documents the case against the politicians is presented in the clearest manner, with abundant details; but they are too voluminous to be published in Science.

The Turkish have a proverb: 'The fish stinks from the head.' It can not be overlooked that the governors of New Mexico, who appoint the regents of the higher institutions, are responsible for the generally unsatisfactory character of these bodies. It is pertinent to ask why the presidents of the United States have not, at least within recent years, seen it possible to give us even tolerably good governors. The explanation lies, of course, in the so-called policy of home rule, which in this case results in practically giving the appointment of the chief executive into the hands of the then dominant predatory organization. It would seem more logical either to make us a state and let us make our own muddle, or treat us as a child-commonwealth and provide us with competent rulers.

The New Mexico Normal University, which opened its doors five years ago, has had until now a most fortunate immunity from political interference. In spite of its rather ridiculous name, it has prospered under the guidance of men who understood its proper aims and needs. This has been principally due to the wisdom and influence of Mr. Frank Springer, the well-known authority on crinoids, who has been president of the board of regents. Mr. E. L. Hewett, the president of the school, is a well-

known educator and student of anthropology. The faculty has been chosen by the president, and elected to serve indefinitely on good behavior, instead of being reelected annually as at the Agricultural College. In so young a school much remained for the future, but progress has been steady and satisfactory, and the institution was beginning to amount to something as a scientific center.

All this is now to be changed. All along there had been attempts within and without the board of regents to effect undesirable changes, but so far it had been possible to suppress them, and the faculty usually heard nothing of them. However, when a member of the board recently resigned because he was leaving New Mexico, Governor Otero appointed for the unexpired term a man who was well known to be hostile to the existing management. After a time it became plain that a destructive policy was intended, and Mr. Springer resigned from the board. The faculty held a meeting to discuss the situation, and sent one of their number to represent the facts to Governor Otero. The governor, however, offered no relief and plainly intimated that if we resigned there were plenty more where we came from. It was then decided to lay the matter before the public, and a printed pamphlet was issued, setting forth the conditions in detail. This was well received by the public and the students, the great majority siding with the faculty; the students especially being practically unanimous, and passing resolutions expressing their opinions. The City Council of Las Vegas also passed resolutions in favor of the faculty. In the face of all this, however, Governor Otero reappointed the regent objected to for a full term, and appointed in Mr. Springer's place one of the regular politicians. In these actions he was supported by the council of the recent New Mexico legislature, which has been exceptionally corrupt and incompetent. Hence the faculty goes.

T. D. A. COCKERELL.

LAS VEGAS, N. M.,
April 12, 1903.

SHORTER ARTICLES.

THE USE OF PNEUMATIC TOOLS IN THE PREPARATION OF FOSSILS.

THE tedious work of removing fossils from their matrix by means of the hammer, chisel and awl has led to various experimentation with machine tools in the hope of devising some more rapid method. The dental engine and the electric mallet have been in use in some laboratories for a number of years, and have proved very efficient in such work as the removal of hard matrix from small skulls. However, their efficiency has so far been limited to light work. This is probably due in a large part to the fact that the tools used are those constructed for the lighter work of dentistry. It is also generally conceded that electric appliances have not proved a success in percussion tools.

Pneumatic tools were introduced into the paleontological laboratory at the Field Columbian Museum by the writer some four months ago, and may now be said to have passed through the experimental stage. The application of these tools to fossil-cleaning has proved so successful that it has seemed worth while to call attention to their use in this work.

The pneumatic hammer as used in chipping and riveting metals and in stone-cutting is too well known to require description here. However, only the lightest hammers used in stone-cutting come within range of our present consideration. These are manufactured by a number of firms in the United States and are of two types, the pistol-grip and the straight cylinder. The latter type has been adopted by the writer on account of greater convenience in bringing the tool into use in work in all positions. Experimentation has shown that the smallest hammers on the market as stone working tools are heavy enough for any work on fossils. A still smaller size would often be convenient.

The hammer in use consists of a cylindrical chamber in which a five-eighth-inch steel plunger having a five-eighth-inch stroke is caused to play upon the head of the chisel at the rate of 3,000 to 3,500 strokes per minute.