the Andes; and its leaves, which are gathered and dried with great care, have been used by the natives as a stimulant and narcotic since the days of the Incas, by whom it was held in great esteem. This plant should not be confounded with the more familiar Theobroma cacao, the seeds of which afford chocolate and cacao-butter, nor with the cocoanut, whose tree supplies food, drink, light, clothing, and shelter to the natives of some tropical lands.

LETTERS TO THE EDITOR.

*** Correspondents are requested to be as brief as possible. The writer's name is in all cases required as proof of good faith.*

The stone age in prehistoric archeology.

IN a recent number of *Science*, it is stated (p. 438), that at a meeting of the Academy of natural sciences of Philadelphia, Sept. 25, Dr. Brinton exhibited certain stone objects from Tunis, presented by the Marquis de Nadaillac. Among them was one resembling the 'stemmed scrapers' found in this country. "This form," the writer goes on to state, "is characteristic, in France, of the *later* productions of the stone age, especially of that epoch called by the French archeologists 'the epoch of Robenhausen.' Chronologically, this is regarded as the first epoch of the appearance of man on the globe, the previous implement-using animals being probably anthropoids." This is a most amazing travesty of the views of de Mortillet and the archeologists of his school. It may safely be asserted that no one holds any such opinions as these, with the possible exception of the writer of the notice in question.

At the Prehistoric congress held at Brussels in 1872, Gabriel de Mortillet first proposed his system of classification of the age of stone. In it the name 'epoch of Robenhausen' is given as synonymous with 'age of polished stone,' or 'neolithic period;' while the paleolithic age is subdivided into four grand divisions, called, in the inverse order of their antiquity, those of La Madelaine, of Solutré, of Moustier, and of St. Acheul, each characterized by its own peculiar type of instrument. This classification was still further extended by him to the age of bronze, in a table exhibited at the Geographical congress held at Paris in the summer of 1875. A full account of it was given in the *Matériaux*, vol. x. p. 372. Since then the system has been almost universally adopted by prehistoric archeologists; and it is thoroughly explained and admirably illustrated in the 'Musée préhistorique,' published by Messrs. Gabriel and Adrien de Mortillet, in 1881. In 1883 the elder de Mortillet published, in the library of contemporary sciences, his 'Le préhistorique antiquité de l'homme.' In this the views he was known to hold in regard to the so-called 'tertiary man,' or, as he more logically entitles him, 'the precursor of man,' are set forth in detail. A critical notice of this work was given by the writer in *Science* for March 30, 1883. The work is divided into three parts, — 'the tertiary man,' 'the quaternary man,' and 'the man of the present' (*homme actuel*); and the doctrine is maintained that "it is only at *the commencement of the quaternary* that man shows himself not absolutely identical with us, but so near that we cannot refuse to him, under a proper nomenclature, the name of man." De Mortillet's peculiar views, with which only a very few anthropologists sympathize, are confined to the existence of an intelligent 'implement-using anthropoid' in tertiary times. To this question he returns with renewed vigor in his journal, *L'homme*, of the 25th of last September, apropos of the excavations made at the celebrated locality of Thenay (near Tours) by a committee of the French association for the advancement of science. These were preparatory to a discussion of the question of the tertiary man at the meeting held last year at Blois.

Whether it was 'man,' or 'an intelligent anthropoid,' who fabricated stone implements in tertiary times, may well be a question; but there is no doubt whatsoever that they were men very like those first found by Europeans on this continent, and Mr. Jacob Messikommer will help any one, as he did the writer, to disinter their relics from the peat-moor of Robenhausen.

HENRY W. HAYNES.

Boston, Nov. 10.

Forgotten conclusions of science.

Your comments on the forgotten conclusion of an investigator on rectal anaesthesia reminds me of a discussion, in the section of physics at the American association, over a paper of Professor Graham Bell's, on a possible method of communication between ships at sea. Several eminent men and some distinguished foreign visitors took part in the discussion. It led out into suggestions of telegraphing across the ocean without wires, and experiments of communication across rivers, and across the strait between Southampton and the Isle of Wight.

As my recollection serves me, Professor Morse went over all these experiments more than thirty years ago, and supposed at one time he could carry his telegraph across rivers and streams by means of two wires, one running up and the other down stream along the shores, and then dipping into the water. I remember seeing a cut illustrating it. Professor Bell's paper was a new adaptation of the old idea; but the discussion, and all, seemed to me to be wholly oblivious of the experiments and conclusions of Professor Morse.

P. J. FARNSWORTH.

Clinton, Io., Nov. 8.

The lamprey as a builder.

During the month of June I had an excellent opportunity to observe the manner in which the lamprey eel (Petromyzon marinus) builds a stone dam for the deposit of spawn and for the protection of the progeny.

The location of the structure was in the Saco River, within the ripples near the foot of the lower falls, three miles from the sea, and near the level of mean high water. It was nearly at right angles with a shore-wall of granite, and was about fifteen feet long and from one to three feet in height. Its position and triangular shape in vertical section were well adapted for securing a change of water, and a hiding-place among the stones for the young.

When I first noticed the movements of the eels, they were diligently at work, their system of operation being very methodical; but I was not able to determine whether there was any action by single pairs, as