

mock,' if that is a diminutive of hump, as seems most likely. Whether there is any connection between our hammock and 'hammock' in the ordinary sense (German *Hangematte*) perhaps some philologist can tell us. If 'hom-mock' could be universally adopted by the natives of the southeastern coastal plain, then 'hammock' could be restricted to the familiar manufactured article and 'hummock' to a heap of ice or something of that sort; but this is obviously out of the question at present.

Before dismissing the subject I should like to suggest to those botanists who believe in giving names of classical derivation to every kind of plant-habitat, that they find a Latin or Greek equivalent for the word under discussion, and thus do away with all this uncertainty at one stroke, at least as far as botanists are concerned.

ROLAND M. HARPER.

COLLEGE POINT, NEW YORK,
June, 1905.

INDIAN BONE COMBS.

TO THE EDITOR OF SCIENCE: Some of your readers may receive the valuable archeological reports of David Boyle, of Toronto, annually made to the minister of education, Ontario. Mr. Boyle fully believes that the bone combs found on Indian sites in Canada and New York are a purely aboriginal idea, while I as firmly hold that this idea came from Europeans. Such differences are common and natural, but the report for 1904 mistakes my position saying:

The contention of Dr. Beauchamp is simply this, that without metallic tools it was impossible to make a comb, and the inference is that before the appearance of Europeans, the Indians had no use for any article of this kind.

The latter statement is correct, the former an error of my valued friend. If I have made such a statement I gladly retract it. I certainly do not believe this impossible in a general way, but metallic tools were used in most cases.

I have figures of forty-five of these combs from Iroquois sites in New York and they are found there on no others as yet. Ten of these are from Mohawk sites, found with glass and

brass ornaments, and there are others there. Four are from Cayuga sites of similar character. Onondaga sites have furnished seven, of which two are as early as 1600. Seneca sites have furnished twenty, mostly made about 1687, with two more which are in a sense prehistoric. Some recent ones have not been figured. From Oneida sites I remember none, though they should occur there. Two others were from Jefferson County, where they are certainly rare. One of these may be classed as early and the other recent. Some brass beads found on sites there now place these in the sixteenth century, as had been surmised. Of those enumerated forty were found with European articles, and five may be dated anywhere from 1550 to 1600. The earlier and ruder ones were made with stone tools; the more elaborate with metallic implements. The soundness of my position will thus be seen. All known New York combs of this character seem to have been made between 1550 and 1700, and may be ascribed to European contact. A few were made with stone tools, soon replaced with those of metal, and I certainly do not think it was impossible to have made the ruder forms without the later tools. Why the Indians did not think of these combs before we can not tell. It is evident they did not till after European contact.

Some of the later combs are fine in design, and Mr. Boyle has given some figures of Egyptian bone combs, furnished by Wm. Flinders Petrie, and there are curious resemblances to those found in New York and Canada, so many centuries later. One great value of Mr. Boyle's reports to those laboring in New York is in the close relations of the fields, so well shown in his long and accurate work.

W. M. BEAUCHAMP.

SYRACUSE, N. Y.,
August 11, 1905.

SPECIAL ARTICLES.

THE SYSTEMATIC NAME OF THE JAPANESE DEER.

THAT an author himself has no more right to change a systematic name once given by him than any other person is a principle now

accepted by all codes of zoological nomenclature.

In a preliminary introduction to the *Fauna japonica* entitled 'Coup d'œil sur la faune des îles de la Sonde et de l'empire du Japon,' published in 1837, and issued in the fourth fascicule of the work, which also contained the Japanese snakes, Temminck briefly diagnosed the Japanese deer, on p. xxii, as a new species under the name of *Cervus nippon*. In 1844, seven years later, in the second decade of the mammals of the same work, a plate illustrating this deer was published as *Cervus sika*. The text describing it more in detail under the latter name did not appear until many years later, probably not until 1852 or 1853. The diagnostic features given are essentially the same as indicated in the preliminary discourse of 1837.

The Japanese deer must, therefore, in the future stand as *Cervus nippon* Temminck.

LEONHARD STEJNEGER.

U. S. NATIONAL MUSEUM,
September 7, 1905.

THE POSSIBILITY OF ABSORPTION BY HUMAN BEINGS OF NITROGEN FROM THE ATMOSPHERE.

THE physiological value of nitrogen is to provide the staging or framework for the support and functional efficiency of the construction and nutritive processes at work in the living animal organism. The absorption of nitrogen by the animal organism has lately been regarded as resulting from the intermediary action of the vegetable world—a mode of nature-economy which there would be no reason for limiting to compounds of nitrogen, but should be extended to the entire range of animal-mineral absorption.

From this point of view, which seems to be based on close scientific observation, there has lately been extended a good deal of apparently well-qualified criticism with regard to the efficacy of the animal body-tissue to absorb and assimilate drugs derived from the mineral kingdom. Thus the administering of iron, strychnine, arsenic and other mineral tonics has been vigorously and justly condemned, not only by lay students, but also by the more

advanced students in the medical profession themselves.

Yet, in the light of still more recent researches, it has been ascertained that the true reason for condemning certain drug medication does not lie in the assumed failure of the mineral compound to yield to absorption, but rather in the fact that such absorption is really possible. For, while the power of the mineral to generate changes in the animal organism largely proceeds on a mechanical basis, the fact remains that the changes wrought, let us say, by arsenic in the hemoglobin of the blood can be rationally explained only by admitting an action due to processes of physiological chemistry.

To discover the character of the forces and conditions at work in these processes of absorption has recently been the aim of some eminent French and German scientists. Thus, in his extensive studies of the character and genesis of nitrifying bacteria, Dr. Wohltman, of the Agricultural Institute in Bonn-Popelsdorff, Germany, has brought to light some highly interesting points with regard to the relations existing between nitrogenous compounds and organic substances. Among other observations he has found that the action of certain bacteria, hitherto considered indispensable in the elaboration of the nitrogen molecule for its absorption by the vegetable, is so only under certain conditions. In his 300 experiments with the soil in the valley of the Rhine, Dr. Wohltman ascertained that wherever the soil is rich in nitrogenous fertilizers, preferably ammonium nitrate, the leguminous plants are found to grow and absorb nitrogen without the presence of bacteria. From this fact Dr. Wohltman draws the conclusion that the 'association of the plants with the bacteria is not a necessity, but an expedient, and whenever there is a rich supply of nitrogenous elements in the soil, they (the plants) dispense with the bacteria and with the free nitrogen, which the latter make available, by directly secreting it from the chemical combination of soil or air in which it is held suspended.'

From this fact, it would certainly be justifiable to draw the inference, that whatever