

including the Huronian, Grand Cañon, Llano, Montalban, and Taconian (of Hunt), Animikie, and other divisions, shall be accorded a name different from any of these (such as 'Eozoic' or 'Proterozoic'), and allowing the greatest amount of liberty in the future, when it shall be determined whether this division shall be entitled to rank as one or several of the first order having numerous subdivisions as above mentioned, or with, or including, any of them of the second order like the class Laurentian. No attempt shall be made at this time to pre-judge this question, and these names and this classification shall be regarded simply as the best that can be accomplished at the present time."

This plan would seem to be possible of acceptance both by those who, like Dr. Hunt, recognize many divisions, and by those who recognize but two. The only sacrifice of individual opinion required would be as to the rank of such divisions, which the reporter doubted whether any geologist wished unreservedly to affirm. When the exact rank of the proposed new division is generally accepted, if it be a group, the now all but universally accepted word 'Archæan' can be dropped or otherwise assigned.

As to the resolution approving the action of the committee, if it only received two or three affirmative votes, it is equally true that it received no negatives.

Philadelphia, Aug. 25.

PERSIFOR FRAZER.

The Pronunciation of 'Arkansas.'

I HAVE read with much interest Mr. Robert T. Hill's vigorous protest, in the last number of *Science*, against the mispronunciation of this word. Nevertheless, it seems to me that Mr. Hill, whose personal acquaintance with New England is comparatively recent, has been unintentionally not quite fair to "intelligent New England circles," in making them responsible for the "later and improper pronunciation." I am a New Englander by education, myself, and was taught, before I went to school, to pronounce the word properly. In school, however, our teachers insisted on the 'revised version.'

I am pretty well convinced that the mispronunciation was the invention of a class of school-teachers, unfortunately too common in New England, whose training for teaching the 'English branches' is so specialized as to carefully exclude every thing relating to foreign languages (including even the English of *Old England*). Not a few other examples might be quoted of similar 'school-ma'am' pronunciations. 'Glou-ces-ter' and 'Wor-ces-ter' are beginning to replace the proper sounds among the younger generation of 'common-school' scholars in New England, at least, and 'Norwich' and 'Harwich' are well established. It seems to me that we really do need more such protests as Mr. Hill's, before the rage for anglicizing does away with the historical pronunciation of more of our geographical names.

In regard to the word 'Cheyenne,' I suspect that Mr. Hill has laid the blame on the wrong shoulders. How the western plainsmen (who, one would suppose, would have inherited the correct pronunciation, or something like it, from the old *coureurs de bois*), came to call the 'Dog Soldier' band of Indians 'shy-ens,' instead of 'chiens' I cannot say. I do know, however, that this was the established plains pronunciation. We can scarcely blame the New England lexicographers, — or whoever first wrote the word, — therefore, for failing to recognize the French word under the universal Western pronunciation.

JOHN MURDOCH.

Smithsonian Institution, Aug. 27.

Eskimo and the Indian.

IN an article on the Eskimo of East Greenland in the current number of the *American Naturalist* (p. 749), it is stated that the eminent savant Dr. Rink has recently advanced the idea that the 'kayak' of the hyperborean American aborigines is but a development from the birch-bark canoe of the neighboring Indian tribes. In glancing through Petitot's 'Tchiglit (Mackenzie River) Dictionary,' I found what seems to be a confirmation of this theory. In the Tchiglit dialect the word for boat is *kayark*, and the bark of the birch used for canoes (*écorce du bouleau à pirogues*) is called *kreyrork*. A comparative study of the Eskimo and the neighboring Indian dialects must certainly result in adding considerably to our stock of knowledge regarding the interesting Innuits. A few ex-

amples of Eskimo loan-words may be given here. In the dialect of the Eskimo of Churchill River the word for 'dead' is *nipa*, which agrees with *nipiw* (Cree), *nip* (Chippeway), etc., being entirely foreign to the stem *tok*, which pervades the Eskimo dialects from Cape Farewell to the Anadyr. One of the Tchiglit words for 'rain' is *nipaluk*, evidently related to the Cree *nipi* (water). In Algonkin we find this series: *nipa* (moon), *nip* (die), *nipi* (water); and it is worthy of attention that this peculiar concatenation is repeated with the Eskimo of whom I am speaking, viz., *nipa* (dead, in Churchill River dialect), *nipaluk* (rain, i.e., water, in Tchiglit), *nipartvark* (a Tchiglit term for moon). In the far west we find the words *madsschak* (sun, in Kadiac), *matschak* (sun, in Anadyr Tchuktschi), *madje* (sun, on Kotzebue Sound), *madzak* (star, in Kadiac), which bear a suspicious resemblance to *maitsaca* (moon, in Tarahumara), *matzake* (moon, in Cora), *mecha* (in Cahita), and *metztli* (in Aztec), and would seem to indicate the great northward extension of Aztec influence along the coast of the Pacific. Thorough research will no doubt reveal much that is interesting and valuable in this regard.

A. F. CHAMBERLAIN.

Toronto, Aug. 25.

Sea-Water Ice.

IN *Science* for August 19, under the heading 'The Formation and Dissipation of Sea-Water Ice,' Mr. Ashe, in speaking of the formation of ice along the shore, and the accumulation of films of ice upon that which is submerged, makes the following statement: "Over this, at the surface of the water another film is formed, which, on reaching the level of the submerged ice, is frozen to, and remains with it in this position. This operation is repeated till the result is that a perpendicular wall of ice forms, whose outer limit is the low-water mark, terminated by a horizontal surface shorewards, at the limit of high-water mark."

If it is meant to convey the impression, as it would naturally be supposed, that this is so in all parts of the world, I must flatly contradict the statement for Cape Prince of Wales, Hudson Strait, where I was stationed, at the head of a sandy bay, during the winter of 1885-86, with the object of watching the formation and dissipation of sea-water ice. Here the distance between high and low tide mark was about three hundred yards, and, although some ice did adhere to the sand, it always came to the surface in irregular pieces shortly after the tide had risen above it. These pieces were often piled one upon another by the force of the wind, accumulated, and as the winter advanced they rose to the surface in larger masses, until the ice in the bay had reached a variable thickness under three feet, when the whole mass floated at each rising of the tide as one piece, only cracking in a few places, and, with the exception of its rough surface, no change of level could be noticed between it and the ice always floating beyond low-tide mark.

A higher tide than usual always forced its way through, within a few feet of high-tide mark, the ice cracking with a loud report here and there along the shore, the water again returning through these cracks when the tide began to fall.

Late in January a hole was cut through the ice between high and low tide mark, when the sand was found to be perfectly soft, in which living shell-fish were found.

F. F. PAYNE.

Toronto, Aug. 23.

Answers.

14. AN EXPULSION OF SPARROWS. — It was probably a flock of 'white-bellied swallows' that W. A. G. saw circling about his house on Staten Island, but they in no way caused the disappearance of the sparrows as intimated. These swallows are here now in great numbers, perching on telegraph wires and along the seashore on beach, plum, and bayberry bushes, and on hazy mornings many may be seen flying south along our shore line. As to the English sparrows, a few still remain about the houses, but this is their season of flocking, and in some fields, especially where grain has been raised, they abound. I once knew of a double row of elms where these birds congregated afternoons in late summer, and chattered in great convention until the sun went down. They were gathered from a large circle of country, and I think that W. A. G. will find a similar meeting place, where the missing sparrows will be assembled.

WM. T. DAVIS.

Tompkinsville, S.I., Aug. 29.