The Nomenclature Question.

I AM glad to see this question brought up as it is by Professor Underwood in the number of *Science* for Aug. 26; for we should have a uniform nomenclature in all departments of natural history. That such is not the case now is apparent to every student who is working in any of its various branches. But I do not wish to discuss the subject in general, but to touch upon one or two points. As to the question of priority, there should be some definite rules by which this should be governed, as has already been said in other of our scientific periodicals, and it will not profit by any rehashing it here, further than to say that among entomologists it is generally understood that the mere proposal of a name for a genus without characterizing it does not hold against a later name accompanied by a description.

As to the act of a writer who takes a species already named and puts it into a new genus with his own name after it instead of the name of the original describer, that is an outrage that has not been tolerated among entomologists for some time. I can see no valid reason for retaining such a system of nomenclature in any department of natural history, merely that some reviser may gain a little cheap notoriety.

A word as to the initial letter of specific names. It seems to me that the name of a species is a proper name as much as the name of a genus; in other words, it is the name of a group of plants or animals, and, if such, is as much entitled to a capital initial as is the name of the genus. Many of our leading entomologists have adopted this view and begin all specific names with capitals; as, for instance, see Edwards's "Revised Catalogue of the Diurnal Lepidoptera of North America," 1884; Kirby's "Catalogue of Diurnal Lepidoptera," 1871 and 1877, etc. I believe it is the correct principle and follow it in all my work in natural history.

G. H. FRENCH.

Southern Illinois Normal, Aug. 30.

The Grand-Gulf Formation.

THIS has now become a clearly recognized division of the post-eocene geology of the Gulf States. No subdivisions of it have as yet been attempted in print, though more than three years have elapsed since the writer — then in the service of the U. S. Geological Survey — announced the first discovery of fossils on Pascagoula River and the two branches which form it, Leaf River and the Chickasawhay, near their junction. The exact locality of the largest deposit is Shell Bluff, just below Robert's Ferry and a few miles south-west of the post-office Vernal, in Greene County, Mississippi. It was then proposed to call it the Pascagoula formation, and to regard it as distinct from Dr. Hilgard's Grand-Gulf. Further developments and recent discoveries have confirmed me in this view. It was not at first accepted, because there is but the one witness, myself, and attempts to trace it westward and eastward failed to detect the same or similar fossiliferous beds on the Mississippi, on Pearl River, on the Alabama River, or on any of the smaller streams of these States. This kind of negative testimony would only go to restrict its extension, and not to overthrow the validity of the distinction if otherwise properly established.

Many facts, too numerous to be elaborated in this short paper, prove that the great Mississippi embayment had collateral branches in which the variations are too well defined to be disregarded. The Pascagoula embayment was one. And whilst the main body of the Grand-Gulf formation is of sand, sandy clays, and quartzites due to a fresh-water agency, in the Pascagoula formation it presents a marine aspect, where calcareous clays, more or less pure and with more or less distinct evidence of molluscan fossils, prevail. The boundaries of these two will not be attempted in this paper. Let us pass at once to some of the strongest and more recent proofs.

Of the shells discovered at Shell Bluff it may be said only one, the large oyster, could be clearly determined. The rest were in a condition so decayed and friable as to render their transportation in good condition impossible. But as I remember them, the oyster approached, yet differed from, the recent *O. Virginiana*, among other particulars, in its greater massiveness. Among the other shells too rotten to be moved was one strongly similar to a *Gnathodon*, though it may turn out to be a *Mactra*. Another, and the most numerous, was a small shell somewhat resembling in size and outline the *Donax* so common on our beaches, but with less umbonal development, and with the distinctly visible lines of growth resembling *Venus*. The difficulty in this case as well as the other is that the hinge could not be clearly made out.

Borings for artesian wells at Biloxi and other places on the Mississippi coast, and quite recently at Mobile, Ala., solve the difficulty.

The Biloxi borings, among other things, brought up, from a depth in the neighborhood of 700 feet, fragments of a large oyster, which might well belong to that of Pascagoula, and a very easily recognized *Gnathodon*.

The boring at Mobile, from about the same depth and just above the water-bearing sands, has yielded similar bits of oyster, and a small shell, evidently the same as that of Pascagoula, and sufficiently preserved to be determined. It is a *Venus*, or very nearly allied to that genus, and if not already found elsewhere and named, the name *V. Mobilensis* is proposed for it.

Not having room to go further into detail, I wish clearly to say that I find evidence sufficient to establish the existence of a formation of deep-bedded gray clays of partially marine genesis, lying upon the water-bearing sands of the upper strata of the Grand-Gulf formation; that I have traced this clay from Pearl River, Miss., to Conecuh River, Ala.; that it constitutes the cover rendering artesian wells possible, and that it was for these clays that the name Pascagoula was proposed.

LAURENCE C. JOHNSON.

Meridian, Miss., Aug. 1.

European Origin of the Aryans.

My attention has been called to Dr. Brinton's note in *Science* for June 20 as to the claim of Omalius d'Halloy to have preceded Latham in calling in question the theory of the Asiatic origin of the Aryans. In 1890, when in his lectures on "Races and Peoples," Dr. Brinton advanced the claim of d'Halloy, I carefully read over Halloy's articles, as cited by Dr. Brinton on p. 146 of his book, and I came to the conclusion that d'Halloy was not acquainted with the theory he is said to have controverted. The dates confirm this conclusion. The articles in question were published in the Bulletins of the Belgian Academy during the years 1839 to 1844, and were recapitulated in 1848. The theory of the migration of the Aryans from central Asia first found definite expression in an article by Pott, buried in a volume of Ersch and Grüber's Encyclopædia, which was published in 1840, but it attracted no attention till taken up by Lassen in 1847, and by Jacob Grimm in 1848. This was the theory against which Latham contended, whereas d'Halloy's very confused and misty arguments seem to refer, if they refer to anything, to the Caucasian theory broached by Blumenbach in 1781, with the modifications proposed by Adelung in his Mithridates, 1806-1816.

I think, therefore, we are still justified in asserting that Latham was the first to question the comparatively modern theory that the Aryan race originated in the highlands of central Asia, a theory of which d'Halloy does not seem to have heard, and consequently in the second edition of my "Origin of the Aryans," published in 1892, I did not think it necessary to modify my former statements as to Latham's priority.

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Acid Prevention of Cholera.

IN previous epidemics the value of sulphuric and sulphurous acids as preventives was demonstrated, and when Koch discovered his comma bacillus he also noted that its cultivation was possible only in alkaline media, and that acids destroyed it. In corroboration of these findings, Niemeyer, who wrote long before anything of this nature was known, records that the ileum, or lower small intestine, is the main seat of the pathological changes caused by cholera. This lower small intestine is the most alkaline and the farthest from the normally acid stomach. The large intestine, being acid, does not suffer.