

sound to me, less euphonious and distinctive than the forms in use. Again, there are two important names, *Nepisiguit* and *Shippegan*, which the board decides must be spelled *Nipisiguit* and *Shippigan*, despite the fact that in both cases the former are in best accord with the history of the words, with the best maps, with the common local usage, and, as it seems to me, with a greater symmetry of construction of words. In fact in this case, while the board's forms can be found upon some maps, I can not find a single reason, even in theory, for their adoption in preference to the others. I can not take space to cite further examples, but these are the extreme cases of a number of similar sort.

The first thought of any geographer on reading these observations will be that the board has made these decisions in ignorance of local usage and will reconsider them when the facts are placed before it. Unfortunately, this supposition would not be correct. In the first place, the board has a New Brunswick representative to whom it can turn for local information; but I have in my possession evidence which shows that some at least of these decisions have not the approval of the New Brunswick representative. In the second place, when these decisions were announced by the board four years ago, they were fully discussed and the facts stated at length in a local newspaper, of which copies were sent the board, and to which indeed the board published a reply, though, in my opinion, an insufficient one. Further, within a year past, the facts were fully restated in a new communication sent through a prominent member of the board who agreed to, and doubtless did, lay it before the board. Since the new report affirms all the old decisions without change, we can only conclude that they represent the deliberate judgment of the board, and embody the methods which they propose to apply to Canadian geographical nomenclature. How different this position is from that of the United States board will be evident to every person concerned with geography. The United States board places convenience above all, adopts the best local usage, attempts no reforms upon theoretical grounds, and is steadily reducing

confusion in the nomenclature of its territory. The Canadian board disregards local usage and convenience, attempts to reform nomenclature to accord with abstract principles, and is steadily increasing the confusion it was organized to lessen. It will be interesting to observe the comparative worth of the two methods in the geographical development of the future.

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ELIMINATION VS. THE FIRST-SPECIES RULE

Now that both sides of this controversy have presented their arguments, it appears desirable to briefly state the case and give a recital of the principal facts brought out by this discussion.

Briefly speaking, the point at issue is this: In every case where a new genus was founded on two species, neither of which was designated as the type, the advocates of the first-species rule claim that the first species cited or described under such genus is the *de facto* type, and can not become the type of any subsequently established genus. In opposition to this view the advocates of the elimination rule hold that in a case of this kind the action of a later author in selecting the first species as the type of a new genus is regular, and that the remaining species thereby becomes the type of the original genus. In case that the original genus contained three or more species and the later author selected any two of them to form a new genus, only one of them (the one that is the type of the new genus) is eliminated, and the remaining species may be designated the type of the original genus, or it may be subsequently selected as the type of a second new genus.

The advocates of the first-species rule claim for their method that it is the easier of the two and that it always leads to the same results, whereas the elimination method, by requiring a greater knowledge of the literature, is liable to lead to different results in the hands of different persons, according to whether they had consulted a greater or lesser number of publications on the subject.

The principles involved and facts estab-

lished in this discussion may be grouped as follows:

1. *The method of elimination is correct in principle.* Even the advocates of the first-species rule admit this. It therefore follows that, since these two methods are diametrically opposed to each other, one of them *must* be wrong. The inevitable conclusion, therefore, is reached that the advocates of the first-species rule are contending for a confessedly wrong principle.

2. *The method of elimination is in harmony with the law of priority.* It upholds the action of the author who first took out the first species and made it the type of a new genus. In seeking to nullify such action the exponents of the first-species rule are proceeding in direct opposition to the law of priority—the basic law on which, more than on any other, the stability of our nomenclature confessedly depends.

3. *The principle of elimination is embodied in the majority of the codes of nomenclature from the very first.* The advocates of the first-species rule are, therefore, seeking to overthrow a principle that has long been authoritatively recognized and adopted.

4. *The difficulty in elimination is a decided benefit to science.* The subject of nomenclature is altogether too important to be entrusted to the amateur; only the seasoned scientist, who is thoroughly conversant with the literature of the subject, should ever attempt so important a matter.

5. *Elimination is as certain in its results as is the first-species rule.* With a perfected set of rules, any two trained scientists can be depended upon to arrive at the same conclusion in practically every case by the elimination method. The first-species method is not more certain, owing to the fact that in several cases the first species cited was incorrectly identified, and by accepting this name we should thereby be led into an error. Nothing short of an examination of the literature on the subject will secure correct results.

This is the gist of the whole matter. Now, I ask in all seriousness: Can any thoughtful person, having the best interests of science at heart, conscientiously advocate the adoption

of the first-species rule—a rule that is admittedly wrong in principle, that is in direct opposition to the fundamental law of priority, that is also in opposition to the codes of nomenclature that have been officially adopted from the earliest times, and that is liable to lead to erroneous results?

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U. S. NATIONAL MUSEUM,
January 29, 1907

THE U. S. GEOLOGICAL SURVEY

'THE good of the cause' must ever be held paramount in the estimation of every right-minded worker. It is for this reason alone, as I state from abundant knowledge, that many earnest students of American geology have refrained from going into print on matters of criticism affecting the U. S. Geological Survey. I should woefully regret the necessity of adopting Dr. Branner's conclusion as to the prime reason for the rule of silence among working geologists outside the survey. The best friends of the national organization have not publicly expressed opinions often privately uttered, simply because personal considerations have been held secondary to the progress of science. The field of American geology is so wide and the best possible achievements of one, handicapped by other obligations is so limited, that the local investigator and the expeditionary observer learn to heartily welcome honest review of their own work by men better equipped with tools, duly qualified to gather the facts and not less capable of ratiocination, by reason of previous training, breadth of experience and ability to demonstrate and show cause for the conclusions given in their publications.

The recent unfortunate controversy illustrated by the letters of Messrs. Walcott, Branner and Hobbs in the columns of SCIENCE would be deplorable enough under any circumstances, and it might be passed without further remark were it not for several important facts and certain issues which ought not to be longer left in doubt.

1. The undisputed high standing of all these persons, and their many and valuable contributions to American geology, make it incon-