

vents, would seem to have come up along an extended crack, parallel with the trough of the Bay of Fundy, and doubtless due to the strains determined along its bottom in some former period of subsidence.

The *granite* hills so conspicuous in both Provinces, such as the Nerepis Hills, Cobequids and South Mountains, have also a semi-igneous origin: only here the material composing them probably originated through the action of heat acting only at great depth, and producing crystallization without fusion.

The relative hardness of igneous and granite rocks accounts for the prominence with which such hills usually rise above the surface.

On the Present Confusion in the Names of American Plants.

BY W. F. GANONG.

In the REVIEW for January 1904, I gave an explanation of the reason for the condition described by the above title, and stated that the whole subject was to be considered and acted upon by an International Botanical Congress to be held at Vienna in 1905. I wish now to explain briefly the action of the Congress and its significance for those who use the scientific names of our native plants.

And first I had better recapitulate the reasons for the confusion, leaving the reader to consult the original article if he wishes fuller information. It is universally agreed among Botanists that each species of plant shall bear but one scientific name, which is in Latin and consists of two words, a genus word and species word; and furthermore all are agreed that the first scientific name given a plant after the introduction of this system by Linnaeus in 1753, shall ever after be its sole name. Nowadays, and in recent years this method of giving names is, and has been, universally practiced, and there is no appreciable confusion in the names of recently-named plants. But unfortunately, whether through carelessness or accident, it was not closely observed in earlier times, with the result that a great many names came into wide, or even universal, use which were not the first ones given the respective plants, the earlier ones being overlooked or forgotten. In the past fifteen years, however, as an accompaniment of the greater activity and more critical spirit prevailing among students, many of these older names have been discovered, thus actively raising the question, shall we retain the well-known though later ones, or shall we abandon them in favor of the

earlier and theoretically correct ones? The subject in practice is vastly more complicated than this simple statement would seem to imply, and upon the various points at issue the Botanists of this country have separated into two schools, the Grayan school, (with their ideas expressed in Gray's Manual, and in many subsequent publications, chiefly by the New England botanists), and the Neo-American School, (represented by Britton and Brown's Flora and Britton's Manual). Among the many points at issue between the schools, two stand out with especial prominence, and they are these.

First:—when in the progress of knowledge a species has had to be changed from one genus to another, and has had its species name changed during the process, shall its correct scientific name be that combination of genus and species names which it bears when finally landed in its correct genus, or shall it be the name of the correct genus combined with the earliest specific name ever given to the plant? The Grayan School has held the former, following in practice a so-called Kew Rule, and the Neo-American school the latter.

Second:—a great number of the first names given to genera became, for reasons which were explained in the original article and need not be repeated here, replaced by later-given names which have come into wide or even universal use. Shall these later well-established names now be set aside in favor of the earlier?

This second question is much more important than the first, considered above, partly because these names happen to be so numerous, and partly because every change of a genus name changes of course, the name of all the species contained in that genus, no matter how numerous they may be. In this matter the Grayan school has been in accord with the leading Botanists of Europe in holding that such long-established names should not be changed, and they have followed a certain rule, (called the Berlin Rule), for the regulation of doubtful cases. The Neo-American school, on the other hand, maintains that the older names must all be restored, claiming that only thus can stability in nomenclature be finally attained. There are other differences between the schools, but they are less important and more technical, and we shall confine ourselves to these two.

And now, what of the Vienna Congress and its decisions? In my opinion this Congress was as representative, authoritative and competent an assembly of Botanists as could possibly have been brought together; and moreover the carefulness and