second map, in 1879, shows them narrower, straighter and in every way more peculiar. His third map, in 1882, presents them as of geometric precision; as he himself remarks, as if laid down by rule and compass. His fourth map shows that they afterward kept such a character.

Had their precision been of his devising, they should not have gained in it as time went on and his eye grew versed in decipherment. That they did so implies that the recognition was forced upon him from without.

9. The third deduction is:

III. That an evolution in detail marks the series, and can be traced steadily on from the beginning to the end. The additions made in each period find themselves superposed upon the work of the period before. Similarly each map of any given period adds to its predecessor and is corroborated and extended by its successor. Thus a chain of evidence is made by them whose strength depends upon this very intertwining of results.

The discussion called forth by the paper was participated in by many, among whom was Mr. Nikola Tesla. S. A. Mitchell.

TORREY BOTANICAL CLUB.

A meeting of the Club was held at the New York Botanical Garden on May 28.

The first paper on the program was by Mrs. N. L. Britton under the title of 'Remarks on West Indian Mosses.' Comments were made on several questions of synonymy and nomenclature arising from a study of collections recently made in Porto Rico by Mr. A. A. Heller and by Professor Underwood, and in St. Kitts by Dr. Britton. Attention was directed particularly to the genus *Sematophyllum* Mitt. 1864 (=*Raphidostegium* De Not. 1867=*Rhynchostegium*, section *Raphidostegium* Br. & Sch. 1852). This genus is chiefly tropical or subtropical in its distribution, though eleven species are known to occur in North America, north of Mexico.

The second paper was by Dr. P. A. Rydberg on 'Some Genera of the Saxifragaceæ.' The speaker presented some of the results of studies intended as a contribution to a projected work on the flora of North America. The family name Saxifragaceæ was used in a restricted sense, excluding *Ribes, Hydrangea, Philadelphus, Parnassia, Itea,* etc. The members of the family in this narrower sense are all herbaceous plants, with the exception of a single species of *Heuchera* which has a sort of aerial woody stem. Dr. Rydberg commented especially upon the genera *Bolandra, Therofon, Telesonix, Hemieva, Tiarella, Heuchera, Tellima, Lithophragma, Mitella,* and *Chrysosplenium,* referring to the geographical distribution and number of species of each. Heuchera is the largest of these genera, being represented by 58 species in North America including Mexico. The paper was discussed by Dr. Britton and others.

Professor F. S. Earle made a brief report on a recent trip to western Texas and Eastern New Mexico, stating that 800 numbers of botanical specimens were collected. April and May seemed too early in the season for finding many herbaceous plants in flower, and this was especially the case with the monocotyledons.

Dr. N. L. Britton showed specimens of *Washingtonia longistylis* collected a few days previously near Washington, D. C., differing from Torrey's type of the species in greater hairiness.

Mrs. Britton alluded to the organization of 'The Wild Flower Preservation Society of America.' Professor Earle remarked upon the region west of the Pecos River, where vegetation has been nearly exterminated by overstocking with cattle, as a proper field for the activities of the society.

Dr. MacDougal showed a corm of *Amorphophallus,* kept for twenty months in a dark room, where it had flowered. New buds, apparently adventitious, had formed near its base.

Marshall A. Howe,
Secretary pro tem.

DISCUSSION AND CORRESPONDENCE.

ZOOLOGICAL NOMENCLATURE IN BOTANY.

To the Editor of Science: On returning from Central America I find Dr. Dall's note

on 'Botanical Nomenclature' in your issue of May 9 (p. 749), and am gratified, of course, by his approval of the suggestion that the disposition of objectionable names or caconyms be separated from the body of nomenclatorial legislation and left to a permanent committee or academy. On the other hand, I greatly regret my failure to have made sufficently plain the fundamental importance of generic types as necessary to stability in the nomenclature of genera.* Had this principle been adequately presented Dr. Dall would have realized that it is not provided for in any existing legislation, botanical or zoological. The most serious deficiency of botanical nomenclature is therefore not avoidable by 'rules accepted by practically all zoologists,' among whom there is in this respect quite as much diversity of faith and practice as with botanists.

In the formulation of rules upon some of the less important details the zoologists may have made better progress than their botanical brethren, but the illustrations cited by Dr. Dall seem rather unfortunately chosen. Vernacular names, for example, are rejected by all codes, that is, when they occur in non-scientific writings, but both botanists and zoologists from the pre-Linnæans to the present generation have exercised the privilege of adopting such names into scientific literature, often in large numbers. Whether a name is 'vernacular' or 'scientific' has thus been allowed to depend upon the nature of the publication rather than upon the origin of the term, so that unless a new canon of criticism can be formulated the nomenclatorial atrocities of Hernandez cannot be excluded because of their barbarian origin without disturbing hundreds of commonly accepted designations of both plants and animals.

Dr. Dall declares that 'ninety-nine hundredths' of our remaining tribulations would disappear by the use of Linnæus' 'Systema Naturæ,' Ed. X., as the starting point of nomenclature, but unless it be the advantage of following the zoologists he gives no intimation of any reason why 1759 is a better date than 1753. As a matter of fact, the plants were presented under the binomial system of nomenclature five years before the animals, and Linnæus but carried out with the animals in 1758 what he had accomplished with the plants in 1753. Botany had a far larger popularity and a much greater and more rapid development than zoology in the seventeenth and eighteenth centuries, which may explain the stronger attachment to mediæval traditions and the greater difficulties of botanical reforms, but this more persistent conservatism will be beneficial if it compels us to master the complex problems of taxonomy and prevents too ready assent to such partial and inadequate readjustments as have found favor among some zoologists.

The historical development and dominant traditions of the two sciences have been somewhat different, but nobody will seriously maintain that there is any essential divergence between the taxonomic requirements of botany and those of zoology, and an adequate solution discovered in the one science will not be lightly neglected in the other. The so-called Paris or DeCandollean code of 1867, to which Dr. Dall also advises botanists to hark back, was not copyrighted, and yet the zoologists did not adopt it, doubtless because they thought themselves able to do better. Like the supplementary Rochester code, it was an important step in the right direction, but it did not exhaust the possibilities of progress. It was evidently prepared as an advisory or preliminary document, and is quite lacking in the logical arrangement and definite statement requisite in nomenclatorial legislation. Moreover, it was based on pre-evolutionary conceptions of nature, and as a system of recording the results of biological study it does not meet our present necessities.

O. F. COOK.

WASHINGTON, June 10, 1902.

* SCIENCE, N. S. XV.: 646; references to previous discussions of the same subject are given on page 656.

COILED BASKETRY.

PROFESSOR MASON'S note under the above heading in SCIENCE for May 30 is another reminder that we know but little of the arts of our eastern Indians at the period of their