

Extolled by LeConte as the "founder of American geology," and by McGee as the "founder of American stratigraphy," said by Dana to be the man without whom "the geological history of the North American continent could not have been written," Hall's present biographer concludes that he "was in truth the apostle of historical geology." Much praise is due Dr. Clarke for the lively way in which he sets Hall—and many of his contemporaries—before us in these pages. The task was a great one, attended with peculiar difficulties, and its accomplishment reflects high credit upon the author. The paleontologic sun rose in New York in 1836, and its warmth still radiates from the Empire State throughout the North American continent!

CHARLES SCHUCHERT

### SPECIAL ARTICLES

#### THE SYNTHESIS OF FULL COLORATION IN PHLOX

IN the issue of *Genetics* for March, 1920, the writer published facts bearing on the color of the flower blade in *Phlox Drummondii*. Certain  $F_1$  purples that were full-colored and self-colored appeared as the progeny of two plants whose blades were a clear white. These  $F_1$  purples, when self-pollinated, gave rise to an  $F_2$  group comprising several types of corolla. A bluing factor in heterozygous condition in the  $F_1$  individuals doubled the number of  $F_2$  colored sorts. Ignoring the differences caused by this factor there were in the  $F_2$  group the following general types (illustrated in colors in Plate 1 in *Genetics*, Vol. 5):

1. Showy full-colored purple or rose type resembling the  $F_1$ . The color is evenly suffused over the blade, *i. e.*, the blade is self-colored.
2. A lighter type whose color is bright pinkish or light purplish. This kind also has its color uniformly suffused over the blade.
3. Dusky type whose dull magenta color is merely stippled on to the blade giving the flower the appearance of a dusty or dirty-looking white.
4. Pure white-bladed type.

Proceeding to the  $F_3$  generation it was found that the lighter uniformly colored Type 2 never gave rise to duskies (Type 3) on inbreeding, nor did the duskies ever contain plants of Type 2 among their offspring. Moreover, neither of these two types, on self-pollination, ever produced Type 1. The deep-colored  $F_2$  plants of Type 1 were capable of throwing out Types 2 and 3 besides repeating themselves. Such analysis led to the hypothesis that full or deep coloration in *Phlox* must be due to the presence together of the second and third types, or rather to the genes for these two types, which are not allelomorphic.

During the past year this hypothesis was tested out by the actual putting together, through hybridization, of Types 2 and 3. In all, seven matings of Types 2 and 3 were made yielding 59 offspring and from every crossing the progeny were both full-colored and self-colored.

Type 2 + Type 3 = Type 1.

This synthesis supplements and confirms the author's earlier work on the genetic relationship of color types in *Phlox Drummondii*.

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#### THE PROPOSED FEDERATION OF BIOLOGICAL SOCIETIES

A CONFERENCE of officers of a number of biological societies was held in Toronto on December 27, 1921, to discuss the feasibility of closer cooperation among these societies. This conference was the outgrowth of two somewhat informal meetings in Chicago, the first in December, 1920, upon the initiative of the secretary of the American Society of Naturalists, the second in April, 1921, at the instance of the officers of the American Society of Zoologists and of the Botanical Society of America. At the request of those in attendance at the second conference the call for the Toronto meeting was issued by the Division of Biology and Agriculture of the National Research Council. The discussion of the Toronto conference was in a measure directed in accordance with a program arranged by the chairman of the Division

of Biology and Agriculture, in consultation with the secretaries of the American Society of Naturalists, the Botanical Society of America, and the American Society of Zoologists. Under the chairmanship of Professor L. R. Jones, the following topics were developed:

- I. The federation of biological societies; the idea and possible plans for its realization:  
C. A. Kofoed, C. E. Allen, F. R. Lillie.
- II. Some of the biological problems which federation may help to meet:
  1. The needs in the field of genetics:  
R. A. Emerson, L. J. Cole.
  2. Society publications: J. R. Schramm.
  3. Correlation of meetings and programs:  
A. F. Shull, W. C. Allee.

These speakers, and other members of the conference in informal discussion, developed a variety of ways in which a federation or some form of cooperation would aid in the solution of problems that are now pressing. It was urged that more adequate outlets for publication might thereby be provided; that larger editions of larger publications could be published more cheaply than the present small journals with limited circulation; that abstracting, which is very inadequately done for zoological literature, could thus be fostered; that biology could thereby be popularized and given more influence in everyday affairs; that correlation of programs, with respect to place and time, would be rendered less difficult; that programs could be arranged around the larger biological principles, rather than under the headings Botany and Zoology; that formation of new societies or organizations could be initiated or given direction; and that adjustment to changes in the grouping of interests, such as that now presented in the field of genetics, would be facilitated.

It was evident from the discussion that the general idea of federation was practically unanimously approved by the conference, and the following resolutions were adopted:

RESOLVED, 1. That it is the sense of this meeting that the inter-society conferences should be continued to consider the feasibility of federation of the biological societies and to develop plans for the said federation; and

2. That for the purpose of advancing these

plans each society, as well as Sections F, G and O of the American Association for the Advancement of Science, be requested to designate its president and secretary as members of an inter-society council which shall be authorized (1) to deal with all matters of common interest, such as coordination of programs, that are consistent with the existing regulations of the constituent societies; and (2) to draw up proposals for a constitution and by-laws of a federation of the societies in question, and to present them for action at the next annual meeting.

Considerable discussion arose as to the details of the proposed federation of societies, but it was realized that these could not be effectually determined in a single brief meeting, and it was decided to leave these matters to the inter-society council provided for in the resolutions. Plans were made for securing prompt action upon the resolutions by all biological societies in session at Toronto and it was informally understood that the proposed council might invite representatives of other sections of the American Association or of other societies if it so desired.

A further resolution was adopted, requesting the Division of Biology and Agriculture to call the first meeting of the proposed inter-society council at a date sufficiently early to admit of deferred meetings and the completion of a plan of federation before the next annual meeting of the societies. The first meeting will probably be called in April.

The organizations represented in the conference at Toronto were as follows: American Society of Zoologists, American Genetic Association, American Society of Naturalists, American Phytopathological Society, Ecological Society of America, Botanical Society of America, American Society for Horticultural Science, Society of American Foresters, Society of American Bacteriologists, American Association of Economic Entomologists, American Society of Agronomy, Entomological Society of America, Sections F, G and O of the American Association for the Advancement of Science, and the Division of Biology and Agriculture of the National Research Council.

A. FRANKLIN SHULL,  
*Secretary of the Conference*